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5 June 1985

# USSR Report

AGRICULTURE

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5 June 1985

# USSR REPORT

## AGRICULTURE

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MAJOR CROP PROGRESS AND WEATHER REPORTING

PROGRESS, PROBLEMS WITH FALLOW PROGRAM IN VOLGA REGION

Moscow PRAVDA in Russian 6 Aug 84 pp 1-2

/Article by A. Vorotnikov, Saratov Oblast: "Clean Fallow of Volga Fields"/

/Text/ A variety of colors can be seen on the Volga fields at the present time. Golden ricks of newly harvested barley and wheat and alongside -- the green color of resilient corn, the dark amber hues of millet and the black with a bluish tinge rectangles of clean fallow. There are almost 800,000 hectares of fallow land in Saratov Oblast alone this year.

The area of such land is constantly being increased. For example, compared to 1978 it has increased by 264,000 hectares and the plans for next year call for not less than 930,000 hectares of fallow. As you can see, this is an impressive figure. What is the effectiveness of the fallow plan in use here? Is it justifying the hopes of the farmers? These questions are of special concern at the present time, since the Politburo of the CPSU Central Committee has examined a proposal by VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/ concerning an increase in grain production through the intensive use of clean fallow.

The deputy chief of the oblast's agricultural administration V. Lugovets acquainted me with data accumulated over a period of 3 years on winter crop yields. The yields obtained from fallow fields were higher by a factor of more than 1.5 than those obtained from other predecessor crop arrangements. And on kolkhozes and sovkhoses in Pterskiy, Fedorovskiy and Balashovskiy rayons -- the fallow yields were twice as high. Regardless of the farm on which a discussion of fallow takes place, the answer is the same in all areas -- it provides a good return, especially during years such as the present one.

Yes, a good return. But to what degree and does this apply to all fallow?

The chairman of the Leninskiy Put' Kolkhoz in Engelsskiy Rayon L. Yerokin was convinced:

"In the absence of clean fallow, it is impossible to maintain a modern farm. Of our total amount of 7,532 hectares of arable land, 900 hectares are in fallow. And we always obtain fine yields. Even this year the rye obtained following clean fallow furnished more than 15 quintals per hectare. And indeed we had no rain since April."

Together with the kolkhoz's chief economist A. Kotenko, Leonid Nikolayevich began, with figures in hand as the saying goes, to prove the advantages of clean fallow. But the yields for the crops grown following such fallow were nevertheless not that impressive.

"In all probability, more should be obtained from your fallow fields. Is this not so?" I asked the chairman.

Yerokin shrugged his shoulders: "It is difficult to say. It seems that we are doing everything. We are harrowing and cultivating. We are taking all measures to ensure that the fields do not become overgrown with weeds. But it is not very often that we obtain high yields from the fallow fields. I am at a loss to explain where the difficulty lies."

There was a difficulty and it was readily apparent.

When we went out to tour the fields in the interest of ascertaining the condition of the fallow fields, Yerokin warned:

"Today there should be five units at work there."

But we found only silence out on the fields. Individual cultivators were lying at the side of the road. It turned out that the engines of two of the Kirovets machines had broken down; the remaining ones were in need of diesel fuel -- it had not been brought up in time. As a result of such "operations," the clean fallow is gradually being transformed into weedy areas. Common winter cress and sowthistle turn green and bush out densely on such land.

Moreover, it turns out that this land is not being supplied each year with organic or mineral fertilizer: it is said that the farmyard manure must be transported a great distance from the farms and there is not enough mineral fertilizer available.

Such was the situation on the leading farm in Engelsskiy Rayon. The situation was even worse on the remaining farms. Certainly, with such an approach being employed the fallow is simply transformed into land that is not used at all throughout the entire year. Here there can be no discussion of "repair" or of raising the fertility of the land.

The Politburo of the CPSU Central Committee has noted that experience accumulated in all regions of the country confirms the high results being achieved in the grain economy from the intensive use of clean fallow. Further and stable growth in the production of grain and other field crop husbandry products in the Volga region must be based upon the mastering of scientifically sound farming systems which fully take into account the specific natural-economic conditions of an oblast, rayon or an individual farm.

"Such a system," stated the head of the Department of Farming of the Elita Povolzh'ya Scientific Production Association Yu. Kurdyukov, "is already in operation. Its most important component -- clean fallow."

Scientists attached to the Scientific Research Institute of Agriculture for the Southeast have defined the norms for increasing the yields for grain crops

grown following clean fallow, for arid rayons of the Volga region. The amount of precipitation which fell in a particular region, the quality of the soils and other factors were all taken into account. Clean fallow exerts a beneficial effect on the gluten content in wheat. And the grain is cheaper in those teams and brigades which operate on the basis of clean fallow.

The computations of scientists reveal that if the amount of clean fallow in the Volga economic region, which includes the large grain oblasts of Saratov, Volgograd, Kuybyshev and Penza, was increased to the amounts called for in the farming systems, the additional gross yield of grain here would amount to approximately 1 million tons. And thanks to this factor alone, the overall income of the kolkhozes and sovkhoses would increase by 75 million rubles.

But we can achieve such a result only upon one condition -- thoughtful concern for this land. However, just as is the case in Engelsskiy Rayon, we often encounter various violations of the technology established for tending the fallow land. Recently, specialists attached to the Saratov Oblast Agricultural Administration and the people's controllers carried out a check on the condition of the fallow fields. What was the result?

In the autumn, plowing was carried out on 726 hectares or 91 percent. The remaining area was cultivated only in the spring. This initial "mistake" in the technology was followed by others -- delays in carrying out cultivation and harrowing. The result? At the Kolkhoz imeni Krupskaya in Tatishchevskiy Rayon, for example, a sector of 40 hectares was covered completely by weeds. Organic fertilizer was applied to only 140 hectares or 32 percent of the area.

The same situation was observed by specialists and scouts at the neighboring Pamyat' Il'icha Kolkhoz. At the Luganskiy Sovkhoz in Krasnoarmeyskiy Rayon, not one cultivation was carried out on 360 hectares, nor was any farmyard manure or mineral fertilizer applied here.

Crude violations of the technology for tending clean fallow were also observed occurring at a number of other farms. In all, 594,000 hectares of clean fallow were adjudged to be in good condition throughout the oblast and more than 200,000 hectares -- satisfactory condition and of "average weediness." And to what extent were they fertilized? Almost one half of this area received neither farmyard manure nor mineral fertilizer.

All of this was the result of irresponsibility on the part of the leaders and specialists on a number of RAPO [rayon agroindustrial association] farms. The majority of them failed to exercise control over the carrying out of technological operations and they adopted a compromising attitude toward the violators of labor discipline. True, following a check the guilty parties were punished. In particular, strict reprimands were issued to the chiefs of the agricultural administrations for the Krasnoarmeyskiy Rayon Executive Committee A. Zhulev and the Ozinskiy Rayon Executive Committee -- A. Saygin. And the chief agronomists at the Rossoshanskiy and Luganskiy sovkhoses, A. Filippenko and A. Savitskiy, were demoted to lower paying positions for a period of 3 months. Nevertheless, serious damage had already been inflicted on the future crops at these farms.



The fact that the oblast's fallow land is almost twice as productive as the remaining tracts of land should be no cause for complacency. Indeed the yields being obtained from such fields are still not very high. Let us take the last 4 years. Only last year were the yields comparatively good: winter wheat furnished 27.2 and rye -- 17.9 quintals per hectare. And in 1981-1982 the winter wheat yields following fallow amounted to 12.7 and 16.4 and rye -- 12.2 and 14.5 quintals. Nor is the yield higher this year. And certainly the principal reason for this -- inadequate tending of the tracts. As already mentioned, the principal guilty parties in this regard -- mainly the workers and specialists attached to the farms and agricultural administrations. But they are not the only guilty parties.

"It sometimes happens" stated V. Kafarena, the deputy director of the Scientific Research Institute of Agriculture for the Southeast, "that even concerned farmers are forced into violating the technology. They lack a system of machines and very little fertilizer is available.

Information was provided in the oblast agricultural administration on the equipment requirements for cultivating clean fallow. There is a shortage of 1,420 cultivator-deep rippers, 706 cultivator-sweeps and 267 heavy disk harrows. The oblast is being supplied poorly with plows for the K-700 and T-4 tractors. For example, of the 1,836 plows required this year for Kirovets machines, only 228 were received.

A similar problem prevails in the case of fertilizer. Very little nitrogen or phosphorus fertilizer is being made available.

At the present time, the rumbling of motors continues on the fields in Saratov Oblast. The harvest campaign is in full swing. There are 1,125 harvesting-transport complexes and detachments in operation. More than 20,000 combines and thousands of motor vehicles have been placed at their disposal. Grain has never been obtained easily. And this year serves to bear out this truism. In all areas the crops have not grown very tall and in some areas they are very sparse. A great amount of expertise and diligence is required if all of the crops are to be harvested completely.

The names of the leading workers during the busy harvest season are cited each day, those who are employing efficient labor methods and achieving high levels of productivity. Three stars -- each representing a yield of 1,000 quintals of grain -- adorn the combines of M. Muslimov and R. Yunusov of the Put' Lenina Sovkhoz in Dergachevskiy Rayon. It is with special diligence that the machine operators are harvesting their winter crops, all sown on fallow fields. Here the yields are higher than those being obtained from the remaining areas. Good news was received from Yershovskiy Rayon: combine operator B. Gerasimov has already obtained 4,000 quintals of grain. The quality of the work -- outstanding.

A number of serious derelictions surfaced during the harvest season. The productivity of the harvesting units on farms in Balakovskiy and Tatishchevskiy rayons was low. The RAPO councils did not ensure the timely repair of the combines and now only one half of them are being used for carrying out the harvest work.

On the eve of the harvest operations, the oblast's farms were supplied with wide-swath harvesters and haystack formers. However, the new equipment is not being used properly.

The Saratov farmers presently have a considerable amount of work confronting them. In harvesting this year's grain, one must not overlook the requirements for the future harvest. First of all, a zealous attitude must be displayed towards the clean fallow. This constitutes one of the chief reserves of the steppe Volga region.

7026

CSO: 1824/338

MAJOR CROP PROGRESS AND WEATHER REPORTING

FIELD WORK PROGRESS IN KAZAKHSTAN

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 2 Oct 84 p 1 .

[Editorial article: "How The Field is Prepared"]

[Excerpts] Farmers have a great deal of work to do on the fall fields. The harvest has not yet been completely collected but farmers are already concerned about tomorrow's grain. The sowing of winter crops is in progress, seed is being cleaned on sovkhoz and kolkhoz threshing floors and plowmen are preparing the soil for spring.

Grain farmers understand well the indisputability of the truth--whatever you sow, so shall you reap. But they have assimilated another rule as well--the size of the harvest also depends on the type of land one sows on. In recent dry years farmers have once again satisfied themselves that a harvest is guaranteed by clean fallow and early fall plowing. This year spring sowing was carried out on over 5 million hectares of fallow and on almost 20 million hectares of arable land cultivated with non-moldboard equipment.

We know that in and of itself, mechanical cultivation does not add nutrients or productive strength to the soil, but it does allow us to regulate physical-chemical and biological processes and affects the structure of the soil. Cultivation methods are among the most important factors of any zonal system of farming. A soil-conservation technology has been successfully assimilated on virgin lands and in other oblasts of the republic. But as experience shows, it provides the greatest effect if the attitude toward it is not routine but creative, taking into account the special features of local conditions. Both the methods of soil cultivation and the system of equipment to be used for this purpose must depend on these local conditions, the nature of weed infestation, the existing balance of moisture and other factors.

The republic's kolkhozes and sovkhozes must prepare over 19 million hectares of late-fall plowed fields for next year's sowing operations. The enterprises of Semipalatinsk, East Kazakhstan, Kokchetav, North Kazakhstan and other oblasts began fall cultivation of arable land without delay, simultaneously with harvest operations. Here in many enterprises links have been created within harvesting-transport complexes to plow fall fields.



Despite the fact that in most republic oblasts harvesting began considerably later than usual, the preparation of land for the future harvest is proceeding ahead of last year's schedule and the output per plowing unit is higher. To a large degree this was facilitated by a mass transition to collective contracts by machine operators. In independent links and brigades work is organized better, demandingness as concerns work quality is higher and there are fewer violations of soil-cultivation technology.

In enterprises where fields have been weeded an effort is being made now to keep weeds to a minimum, which encourages a better accumulation of productive moisture and nutrients and decreases the expenditure of labor and material and monetary resources. In any case agronomists must remember that the preparation of land must be approached not routinely, but creatively.

Now the main task of soviets of rayon agro-industrial associations and of directors and specialists of enterprises is to mobilize the equipment and people freed from harvest work for soil preparation work. There is less and less time left in the fall. Meanwhile, the enterprises of Chimkent, Karaganda, Dzhezkazgan and other oblasts tolerate lags in soil cultivation. This is true despite the fact that they began harvesting operations earlier than the sovkhozes and kolkhozes in the northern part of the republic, where the situation involving soil preparation is noticeably better.

The foundation for the harvest is laid beginning in the fall. Already today, village party organizations and soviet and management organs must concern themselves with future grain. The main concern involves the stabilization of grain production. This means that it is essential to equip grain farmers with the most effective methods for achieving large harvests, to achieve the universal assimilation of progressive technologies and to strictly fulfill the entire complex of operations, beginning with fall cultivation of soil.

Village workers have been given the task of assimilating industrial technology in grain production. This is the most dependable path toward the intensification of the branch. It is the way toward stable and large harvests. This means that we must organize a system for soil cultivation and for the use of mineral and organic fertilizers and herbicides and we must improve zonal systems.

The republic's grain farmers are up to fulfilling the task of increasing grain production and raising field productivity. While preparing for the harvest of the final year of the five-year plan, we must utilize all reserves of grain production. The struggle for the harvest begins today; laying its foundation means preparing fields for spring sowing in a quality manner.

8228

CSO: 1824/278

MAJOR CROP PROGRESS AND WEATHER REPORTING

CORN SEED PROBLEMS IN KRASNODARSKIY KRAY REPORTED

Moscow SEL'SKAYA ZHIZN' in Russian 17 Mar 85 p 1

[Article by Yu. Semenenko, correspondent: "The Planting is Already Near"]

A red banner is waving in the wind at the very top of the flag pole standing on the tower at the corn grading works. It is in honor of M. M. Oreshich's shift, which has a daily output of 75 tons of corn seed, completely ready for planting.

M. M. Oreshich explains, "We have a solid collective, staffed with real masters. A. G. Anufriyenko, a grader, I. N. Kolesnikova, a separator operator, I. M. Semenikhin, a seed treating unit operator, and I. I. Sannikova and G. A. Kushko, sifter operators, are all working excellently. Each of the 12 workers is taking pains for the common good and striving to produce as much first class seed stock as possible."

The works is the nucleus of the Kuban' Association. The farms in four rayons in the kray which are part of this association are raising elite and super elite seed grains obtained from the Krasnodar Scientific Research Institute for Agriculture and the Kuban Station of the VIR [Vavilov Institute of Plant Raising] and are raising first generation simple hybrids and parent forms of corn which will later be used for production purposes.

"The planned capacity of the enterprise is 10,000 tons of seed. We have already produced about 11,000 tons, 99 percent of which meet first class requirements. The first 25 percent of the seed grain was covered with a film containing the fungicide TMTD. For this purpose we recently installed an automatic device."

Both process lines operate under full load for two shifts. Paper sacks full of high quality seed grain move steadily on the conveyor to the warehouse.

The association provides the kray with about 95 percent of the parent forms of corn and serves as a unique reproduction center for the southern part of the entire country. From here the seed grains go to seed raising operations not only in the Kuban, but also in the North Caucasus and even the Don and the Central Chernozem Regions. In addition, some of the output is obtained by farms in the Ukraine and the Transcaucasus.

Seed stock for production and partially for seed raising purposes is also prepared at corn grading works at the Kray Administration for Grain Products. There are 28 such units. It is now the hottest time for collectives at these enterprises. Having completed seed preparation, workers started shipping it. Corn with the Kuban brand goes to various ends of the country.

The Krasnodarskiy Works is one of the best of them. For almost 30 years this collective has been led by L. P. Koshub, a qualified specialist. I went with him along the processing line which begins at the warehouse for raw materials storing more than 1,200 tons of grain. The machinery was humming smoothly.

Enterprises in the administration are preparing corn seed at pace setting rates. The target will be overfulfilled by a sizable amount. This course is dictated by the fact that the loss of some winter crops is increasing the demand for corn seed. Farm orders should be met. Quality is another matter. Only 87 percent of the seed meets first class requirements, while the remaining is second and third class. Even this does not reflect the full picture of seed stock conditions. Visiting many farms, I heard complaints about seed grading. Each fraction has quite large amounts of different size seeds. How can planting be precise?

The main reason for poor quality is the aging facilities. They are outmoded and worn out. They were all built a quarter of a century ago and their equipment has not been modernized. Innovators and inventors have been able to do a few things at each enterprise, but this has only partially improved the situation.

What is more, the Kuban is the main supplier of corn seed to farms of the Russian Federation. What is offered to them? Mainly middle and late ripening hybrids. Naturally, in the Upper Volga, the Urals, Siberia and the Far East their ears do not ripen. This reduces yields and the feed value of green fodder. It appears that the council of the Kray Agro-industrial Association should more urgently and persistently pursue questions of planting fast ripening corn at seed raising farms. Other complaints can also be made about this work. It was mentioned that the situation with regard to gross output of seed is no cause for concern. However, of the total seed prepared last year almost one third was second generation hybrids. However, heterosis appears in first generation hybrids. It turns out that in the push for quantity some Kuban farms forget about quality.

At all works there was concern about the shortage of sacks for finished products. While 2.5 million sacks were ordered, only 1.2 million have been delivered. The problem is that railroads are not providing paper combines with freight cars. The RSFSR Ministry of Procurement is delaying the general schedule of allocations for shipping seed outside the kray. Warehouses have tens of thousands of tons of seed ready for planting which are awaiting shipment. The situation is especially troubling at enterprises in the Kuban Association. At present they have no orders at all for seed deliveries outside the kray. Warehouses are overflowing.

Planting time is not far off. Before it begins all these problems should be solved.

NUMEROUS PREPARATIONS FOR FUTURE HARVEST IN TURGAY OBLAST

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 20 Mar 85 p 1

[Article by Yu. Peshkov, Turgay Oblast: "In the Hope of an Abundant Summer"]

[Text] It was noticed long ago in Sovkhoz imeni Lenin of Kiyminskiy Rayon that if the snow cover on the fields is 40-50 centimeters high, an additional yield of 1.5-2 quintals per hectare is guaranteed. Here this important reserve of fertility is utilized every year. Today too the enterprise was first in the region to complete snow retention on the entire area of 26,000 hectares. On most of the arable land windrows were cut twice.

A great deal of snow was accumulated in the fields of the enterprises of Kiyminskiy, Yesil'skiy and other rayons. At the same time, the possibilities for creating a reserve of moisture in the soil were not utilized in Amantogayskiy, Zhanadalinskiy and Zhaksynskiy rayons. In the first two snow retention was carried out on only two-thirds of the area. This work was done particularly poorly in Tselinnyy, Mayak, Lyubimovskiy and Rostovskiy sovkhoses, where not even half the fields were worked by snow plows.

Another important reserve of the harvest is manure. Enterprises are continuing to move it out into the fields. Hundreds of fertility detachments are at work. But this work too is being carried out with lags. Slightly more than 500,000 tons of manure have been placed in the fields, which comprises half of the quota. Once again the enterprises of Zhaksynskiy and Zhanadalinskiy rayons are among those which are lagging behind. The plan for bringing out fertilizers has been fulfilled by only one-third here. Amantogayskiy, Buyrektal'skiy, Kayrakty, Zhekekol'skiy, imeni 21 S'yezd KPSS, Tersakanskiy and other sovkhoses have supplied insufficient amounts of organic fertilizer.

The timely preparation of seed is important for the future harvest. Good managers are beginning this work without delay. This is true of Pyatigorskiy and Derzhavinskiy sovkhoses, for example, where preparations of the seed fund began during the days of the harvest. Later the work was moved to storehouses. In November it was completed.

It has been proven that with high-quality seed it is possible to produce an additional 2 quintals of grain per hectare. The workers of Alma-Atinskiy Sovkhoz of Yesil'skiy Rayon know about this too. But here they do not concern

themselves with the cleaning and treatment of seed. In the enterprise 1,000 tons of wheat seed were categorized as second class, but upon examination by the seed inspectorate it turned out that this seed was actually third-class quality. In Sovkhoz imeni Titov of Zhanadalinskiy Rayon the rating of 800 tons of seed was changed from first to second class. In Zhaksynskiy Rayon there are many hundreds of tons of unconditioned seed.

Turgay farmers have proven their skill in raising large harvests on numerous occasions. Now they have decided to sell the state no fewer than 88 million poods of grain. This is an intensive goal. In order to carry it out we must prepare for the new harvest in a business-like manner instead of depending on a good summer.

8228

CSO: 1824/278

## MAJOR CROP PROGRESS AND WEATHER REPORTING

### RESPONSE TO FLOOD SURVEYED

Moscow IZVESTIYA in Russian 23 Mar 85 p 3

[Article by G. Gubanov, correspondent: "Reverberations from the Flood"]

[Text] "An ice dam has formed on the Tuzlovka River below Novocherkassk and the backed up water inundated homes. Call blasters right away. Amphibious vehicles and boats are needed to evacuate people...."

This alarming report arrived at the Oblast Flood Commission. A group of engineers immediately came from Rostov-na-Donu. In a few hours they detonated the charges, freeing the river behind the heavy ice dams.

A. Ryabokov, a staff officer on the Flood Commission, said: "In 50 such we took the measures making it possible to avoid serious losses. There were no losses of animals at farms and complexes. Special groups of blasters were working and there are brigades for repairing and restoring electric power lines, communications lines, and detachments equipped with cross country vehicles and boats. A report has just been received: amphibious vehicles full of goods are arriving at Rodionovo-Nesvetayskiy Rayon without incident. Food has been delivered on time."

A helicopter rises into the air. Floodwaters have covered the roads in Martynovskiy Rayon, so the ice situation can only be observed from the air.

The oblast was prepared for the high waters. Those who had to abandon their homes were supplied with hot food and shelter.

Soon the rapid melting of snow will begin in and beyond the oblast, where many rivers begin. According to forecasts, the floodwater peak is expected during the last ten days of March and the beginning of April.

There is a positive side to all the difficulties caused by the spring runoff: the violent and abundant floods make it possible to acquire large reserves of water in ponds and reservoirs to irrigate fields. Last year, a dry one, many of these were empty.

11574  
CSO: 1824/314

MAJOR CROP PROGRESS AND WEATHER REPORTING

SOWING START UP IN KAZAKHSTAN

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 27 Mar 85 p 1

[Editorial article: "Preparing for the Harvest"]

[Text] In a spring-like manner the warm winds move across the expanses of virgin lands and steppes of the Irtysh and Ural regions and Aktyubinsk Oblast more and more frequently. The fields here are still covered with snow, and sowing units will not move out to them soon, but all thoughts and concerns of village workers are now being directed at the coming spring field work.

In southern Kazakhstan field work is already beginning. The farmers of Chimkent Oblast have sown the first 1,000 hectares of early spring crops and are caring for winter crops. The harvesting season will soon begin in Dzhambul, Kzyl-Orda, Taldy-Kurgan and Alma-Ata oblasts.

In preparing to greet the 27th party congress worthily, the republic's grain farmers have decided to raise the largest possible harvest during the final year of the five-year plan--no fewer than 29 million tons of grain. In other words, 12-15 quintals must be produced per hectare. Kazakhstan's farmers are worthy of this task. To deal successfully with it a large degree of organization in every sector and the responsibility of every individual for the future grain are required.

Kazakhstan's share in the country's total grain fund is large. But the republic can and must procure more grain, and first and foremost--wheats of strong, durum and valuable varieties. One of the reserves for increasing the production of food grain involves increasing productivity on the basis of intensifying the cultivation of spring wheat. In 1985 it is planned to produce no fewer than 8 million tons of high-quality grain just by means of this. Wheat will be raised according to intensive technology on an area of over 4.5 million hectares.

Right now the most important thing is to prepare for spring field work in a model manner. A great deal still remains to be done. First of all, it is essential to accelerate equipment repair. Equipment readiness in sovkhoses and kolkhoses is somewhat lower as compared to last year. Lags behind the schedule have been tolerated in repairing tractors, especially the K-700. A difficult situation has developed in terms of high-power equipment due to



a shortage of motors, spare parts within the piston group and tires. Goskomsel'khoztekhnika [State Committee of the Agricultural Equipment Association] must more quickly solve problems related to material-technical supplies to the village.

During the winter period sovkhozes and kolkhozes carried out extensive work on a complex of agrotechnical measures. Snow-retention operations were carried out on an area of over 30 million hectares; in many enterprises windrows were cut twice, which created a good reserve of productive moisture--the main limiting factor in the harvest. Now it is important to conserve this moisture and to complete the harrowing of the soil on schedule.

Another important agrotechnical measure is the application of organic fertilizer to the fields. In comparison to last year this work is being carried out worse. The plan for applying manure keeps being interrupted; a little over 60 percent of the quota has been brought out into the fields. It is essential to accelerate the application of organic fertilizer while the weather permits.

This year enterprises must apply almost 0.25 million tons more mineral fertilizer to arable land. The work is labor-intensive; specialists of enterprises must decide how best to carry it out in order to obtain the greatest effect from the fertilizer. The most important thing is to achieve the timely application of fertilizer and to complete sowing during an optimal period. The strictest controls must be placed over the use of fertilizers.

A subject of special concern to farmers always is that of seed. It has been proven that if the seed is good there will be an increase in yield. Most enterprises in the republic stockpiled enough seed in the fall for spring sowing. Most of the seed has already been examined and falls into the first and second classes in terms of the sowing standard. However, in a number of enterprises there is unconditioned seed. Here the agronomic service is to blame. Sowing material must be prepared in the most careful manner. An examination of sowing material showed that it is in full condition only in Karaganda and Chimkent oblasts. However, here and in Semipalatinsk and Uralsk oblasts there is not enough seed for the area to be sown in spring crops. It is essential to increase reserves as quickly as possible; there can be no delays in this in Chimkent Oblast, for example, where part of the winter crops perished due to the severe winter and where there was no emergency reserve fund of spring grains, although enterprises had been assigned a quota to stockpile. Now these enterprises are forced to bring seed from other oblasts. But sowing has already begun, after all.

Under the conditions in the zone of risky farming the cultivation of grains is always difficult. But this does not mean that the grain farmer is impotent in withstanding the caprices of nature. In Kazakhstan drought is a usual phenomenon, something to become accustomed to. The farmer must oppose bad weather with a high level of agrotechnology, thereby achieving guaranteed harvests during any year. The experience of many enterprises and regions in the virgin lands attests to the possibility of achieving this.

This year wheat is being sown primarily on clean fallow and as the second crop after fallow and after the best predecessors and the harvest must reflect the high quality of soil preparation. Our goal is to harvest no fewer than 20-22 quintals of grain per hectare of fallow fields and 17-18 quintals when sowing takes place as the second crop. But in order to achieve this the entire complex of agrotechnical work must be completed with high quality and during the optimal time period.

Intensive technology requires improvements in the organization and reimbursement of labor as well. As the experience of leading enterprises shows, the best results in farming are achieved in those places where brigades and links have changed over to collective contracts. Here the interest of machine operators and farmers in obtaining large yields is higher, and this means that the feeling of responsibility of individuals for the assigned task is greater.

At present, seminars are being held in all sovkhoses, kolkhoses and rayons for specialists and brigade leaders on the intensive technology for cultivating wheat. During the winter training was organized in enterprises for machine operators and farmers. Nevertheless, a special role is played by the agronomist in assimilating intensive technology. The agronomist is the field technologist and success depends on his knowledgeable management of work. The agronomist must achieve strict adherence to technological discipline. This is the main condition for achieving a large harvest.

All organizational and political work of village party committees must also be subordinated to the struggle for a large grain harvest during the final year of the five-year plan.

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CSO: 1824/278

MOISTURE RETENTION METHODS IN MOLDAVIA DESCRIBED

Kishinev SOVETSKAYA MOLDAVIYA in Russian 19 Mar 85 p 2

/Article/ by Yu. Nikolayev, Candidate of Biological Sciences and senior scientific worker in the Department of Physics and Chemistry of Soils of the Moldavian Scientific Research Institute of Soil Science and Agrochemistry imeni N.A. Dima; V. Byrka, deputy chief of the MSSR Hydrometeorological Center: "How To Retain Moisture During the Melting of Snow"/

/Text/ This winter the amount of snow that fell throughout the republic was one and a half times greater than the average norm established over a period of many years. There was one peculiarity of this winter: the absence of thaw periods accompanied by melting of the soil and hard prolonged freezes.

Last year's autumn was dry and thus the moisture supplies in the soil at the present time amount to 60-70 percent of the maximum field moisture content, even in the upper 1-meter layer of soil. Usually, in accordance with our climatic conditions, the moisture supplies are increased constantly as a result of melting snow during thaw periods throughout the entire winter and also in the early spring. This winter, as a result of hard frosts, the soil on arable land froze to a depth of 80 centimeters in the central and southern zones of the republic. In the northern rayons, where snow fell several days earlier than the onset of the frosts, the average depth of the freezing was only one half the above figure.

From December through February, approximately 130 millimeters of precipitation fell in the northern and central regions and approximately 120 -- in the southern regions. At the end of February, the thickness of the snow cover according to mean data equalled 30 centimeters in the northern and central regions, decreasing to 20 centimeters in the southern portion of the republic.

It decreased considerably during the second decade in March. However the snow was packed down and thus it contained large supplies of water.

Owing to the republic's broken relief and the slopes of various steepness and exposure, the freezing depth, the thickness of the snow cover and the water supplies in such cover fluctuate sharply. During the melting of snow, only one half of the water is absorbed and on steep slopes -- at times, only one fifth of the water.

One of the chief tasks of the farmers at the present time -- to do everything possible to ensure that during the melting of snow a maximum amount of moisture is retained and that surface runoff and soil erosion are reduced in intensity. Various methods are available for carrying out such snow reclamation work. For example, let us take vineyards, where the snow is distributed more uniformly than it is on fields and where the snow depth reaches 50 centimeters in some areas. Here the most effective method is that of creating trenches in the inter-row spacings and moving the snow into the rows of bushes. This is accomplished using PRVN-2.5's, from which the ripper bars have been removed and the plow frame strengthened by built-up plowshares. In the case of loose snow, use can be made of worn out disks from the rear wheels of MTS, YuMZ and T-40 tractors. This is precisely the method that has been used for several years now by the 2d Tractor Brigade of the Durleshty Sovkhoz in Kutuzovskiy Rayon.

Use is also being made of the method which calls for snow to be packed in inter-row spacings using the caterpillar tracks of tractors.

Snow melts more rapidly on the bottom of a trench and the soil, warmed by the bottom, absorbs the water. Packed snow melts more slowly and the runoff is delayed. Importance is attached to the fact that the trenches and the soil-packing caused by wheel tracks facilitate operations during pruning of the grapevines.

These same methods are also being employed in orchards. But the packing of the snow alone is being carried out using flat rollers, whereas trenches in the snow are being created using a section of a BDST-2.5 disk harrow with a specially adapted mouldboard.

This same tractor brigade at the Durleshty Sovkhoz, when creating trenches in the snow and transferring it to trees, employed an old caterpillar track of a T-74 tractor, secured to the extension-type frame of the track.

In orchards and vineyards where the frozen layer of soil is less than on fields, it is recommended that use be made of the slotting method throughout the entire freezing depth. On hillsides having a secondary slope, the slots must be interrupted in order to prevent a concentration of waste water.

The strip packing of snow using flat rollers filled with sand is employed on winter sowings. The width of the packed strip and the distance between strips are established depending upon the steepness of the slope. The steeper the slope, the shorter the distance between the strips. In addition to reducing the speed of water runoff, the packed strips also serve to retain the soil eroded from thawed patches of land.

Still another method is employed on winter cereal grain crops -- the so-called strip blackening of snow (sprinkling with humus, dirt and ash). The width of a strip -- up to 3 meters. They are alternated every 10-15 meters. The blackened strips warm up better and the snow on them melts more rapidly. And since the snow alongside does not melt, the runoff of the water on the whole decreases by one half. This method is more effective on slopes which have a northern exposure, where the snow on blackened strips melts 5-10 days earlier.

Fertilizer distributors and fertilizer sowers are employed for the strip blackening of snow.

According to data obtained in other regions of the country, the increase in winter crop yields obtained from soils similar to ours and from slopes where use was made of strip packing and blackening of snow amounted to 3 or more quintals per hectare.

On arable land which was levelled off in the autumn, it is recommended that use be made of the same snow reclamation methods as were employed on the winter crops. In addition, prior to the melting of the snow, holes can be shaped in the soil -- slots of different sizes (for example, 1 meter in length, with the depth and width ranging up to 10 centimeters). They are shaped using a disk-cutting machine.

The melting of snow can be regulated using a method such as the strip removal of snow from soil. Land thus exposed thaws out rapidly and absorbs moisture to a better degree. As a result, the runoff of water and erosion of the fertile layer of soil are reduced by one half.

The specialists should be reminded of the fact that the methods for snow retention and for regulating the thawing of snow are described very well in the book by VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/ Academician A.N. Kashtanov and Professor M.N. Zaslavskiy entitled "Soil Protective Farming." This book also contains answers for many questions associated with hillside farming.

Snow reclamation work makes it possible not only to augment the moisture supplies in the soil but also to prevent an intensive surface runoff of water and erosion of the fertile arable layer of soil.

7026

CSO: 1824/294



COMBATING EFFECTS OF FLOOD CONDITIONS IN SOUTHERN UKRAINE

Moscow SEL'SKAYA ZHIZN' in Russian 29 Mar 85 p 3

Article by A. Soldatskiy, Kherson Oblast: "In Defiance of the Elements"

Text The burned out steppe flashes before one's eyes. These areas -- Kherson Oblast and a portion of Zaporozhye and the Crimean oblasts -- have since time immemorial been characterized by a lack of water. However, severe floods occur here in the spring on the order of 2-3 times each century. And on those occasions the boundless plain is transformed into a huge lake. From here the water rushes onto the flood plains of rivers and into hollows and low areas, where its level rises rapidly before one's eyes. Here they are familiar with this peculiarity of nature and thus during such rare snow winters they make preparations in advance for the flood conditions.

"The past winter was a special one" emphasized the 1st deputy chairman of the Kherson Oblast Executive Committee L.I. Velichko, who heads the flood committee, "The fact of the matter is that we experienced hard freezes during December and January and the soil, not being covered by snow, froze to a depth of 1 meter. Subsequently, an abundant amount of snow fell in February. During the thaw, the frozen ground was unable to absorb the water. A danger of flooding arose."

The threat posed by flooding was determined in advance by the hydrologists. And preparations were made for it. Our flood committee has been in operation for 2 months. A study was undertaken of the characteristics of the relief and the direction the water would follow during the thawing of the snow. Dams were built and canals installed along the expected path of the flow. Earth embankments were built around villages and livestock facilities. A decision was made as to where the people, livestock and material values were to be moved to in the event of danger.

Many preparations were carried out and yet nobody anticipated the severity of the flood conditions. With the onset of warm weather, the snow melted in a period of hours. The small lakes of water became larger before one's eyes. Helicopters carrying observers for determining the flow of the water flew daily over the fields. Wherever possible, an attempt was made to direct the water flow towards gullies and river channels.

"On the 18th of March" stated the director of the Pobeda Sovkhoz Yu.F. Telenchuk, "a torrent of water rushed towards us from the fields in Nikolayev Oblast and

through the bridge openings of a railroad embankment. One could literally see the water level rising as it rushed towards the central farmstead.

That same night, nobody in the village slept. The tractor operators directed their machines down those streets on which the water level had risen especially rapidly. The people were evacuated and work was carried out in connection with installing drainage canals. All pumping units were placed in operation and the water was pumped into the canals.

I passed this village on dozens of occasions. It was located half way between Nikolayev and Kherson. There were years when the village was warmed by water. But the current situation is being observed for the very first time. Upon breaking through the clouds, the sun clearly illuminated a huge expanse of water. In the center of the lake, appearing as an island, stood the village of Posad-Pokrovskoye. The water ran right up to the highway. In short order it was expected to flood across the asphalt. Boats were being used on a street in a village which had no ponds. V. Gayday, A. Lebedenko and the brothers Ivan and Vasilii Malanchuk and other machine operators remained with their machines for days at a time.

On 25 March, the water level in the village began to fall: the path being followed by the water from the fields was blocked off and the operation of the collector-discharge system was improved. Water was pumped around-the-clock into the irrigation canals. The personnel did not falter before the elements. They were united in purpose as they set off to combat the elements. Under these conditions, the livestock breeders were able not only to maintain the productivity of their dairy herd, but in fact they even raised it.

The flood committees are performing efficient work throughout the oblast. Soldiers from the Odessa Military District provided the residents with a considerable amount of assistance. The helicopter pilots, headed by Major N. Smirnov, supplied Ivanovka with inflatable rafts, food products and clothing. Workers in Genicheskiy Rayon organized the shipment of 12 launches. Trucks carrying large boats were dispatched immediately from Kakhovka and Ivanovka.

Ivanovka -- a steppe and especially dry region of the oblast. On 19 March, a report was received from Zaporozhye: "A tremendous wall of water is advancing towards you from Veselovskiy Rayon." Upon receiving this alarming report, the rayon flood committee issued an urgent warning over the radio to the population concerning the danger. The wall of water swept away everything in its path. During the night, the water level in the rayon center rose to 1 meter and there was no reduction in the flow of water. Ten out of 18 streets were under water.

Genuine heroism was displayed by groups responsible for furnishing assistance. They went to the most difficult sectors. Throughout the entire night, N. Bazyk operated a K-700 tractor for evacuating people from dangerous places. He evacuated children and elderly people from homes while up to his waist in water. The brothers Sergey and Valeriy Treshchevy saved 68 people during the night. In all, 750 people were evacuated from the rayon center.

In the village of Arkhangel'skoye in Velikoaleksandrovskiy Rayon, a torrent of water swept away two 5th grade pupils and carried them off to a bridge.



Serezha Muzychenko succeeded in extricating himself from the water, while Vitya Likhovchuk continued to struggle. Without thinking, communist V. Nartov threw himself into the raging current, seized the young student and thereafter delivered him to a hospital. A senior lieutenant of militia from Velikoaleksandroviskiy Rayon V. Tepa spent many hours rescuing people from the icy water.

Thus, as a result of skilful actions and a high level of organization, no human victims were claimed in Kherson Oblast. Everything was done to reduce the damage caused by the flood. At the present time, the high water is beginning to abate. But many anxious days and nights still remain ahead.

The elements serve as an important test of the endurance of the personnel and their ability to function during a complicated situation. But a number of problems were also uncovered. For example, a drainage system was built around Posad-Pokrovskoye Village. But the collective of the Operations Administration for the Ingulets irrigation system was unable to clean the collector in time and this lowered the runoff of the water.

The flood which formed in Kherson Oblast as a result of the rapid thawing of snow out on the fields was the first test for residents of the oblast. Flood conditions are also expected along the Dnepr, Ingulets and other rivers. However, preparations have already been made here for such flooding.

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PROPER CARE OF WINTER GRAIN CROPS DISCUSSED

Moscow SEL'SKAYA ZHIZN' in Russian 5 Apr 85 p 2

/Article/ by F. Kirichenko and I. Kalinenko, VASKhNIL academicians; V. Shevelukha, Corresponding Member of VASKhNIL; V. Bondarenko and K. Saranin, doctors of agricultural sciences; A. Zholobov, chief of the Main Administration for Grain and General Farming Problems of the USSR Ministry of Agriculture: "For Strengthening the Winter Crops"/

/Text/ Spring, a most important period for the agricultural workers, is expressing itself in a very authoritative manner. At the present time, in addition to making final preparations for the sowing work, a requirement exists for exercising thorough control over and evaluating the condition of the winter crops on each sector sown. This will make it possible to solve correctly the problem concerned with the volumes and types of work remaining to be carried out. There is no special cause for alarm -- the spring growth in the plants indicates that in the majority of regions they wintered well and satisfactorily. It was only in a few regions, particularly in the TsChO /central black earth region/ and the Ukraine, that a portion of the winter crops suffered from ice crust and drenching. The fate of the harvest is now largely dependent upon the crops being tended in a timely and high quality manner.

This year, a favorable regime with regard to moisture availability out on the fields exists in almost all areas and measures have been undertaken aimed at sharply expanding the cultivation of winter crops using intensive technologies. Thus, following the disappearance of the snow it will be necessary to isolate the weak, thinned out and damaged sowings on each farm and on each field, and thereafter they must be resown, undersown or "repair" work carried out on them in a timely manner. In view of the fact that the schedules are extremely limited -- in many rayons the spring processes are taking place late -- during the evaluation, use must be made of accelerated methods, growing the monoliths over a period of 2-3 days in a warm facility and a damp environment. The methods of selecting and analyzing the monoliths by establishing hotbeds on the sowings immediately following the thawing of the snow are acceptable. The mentioned methods are combined with a visual inspection of the plants directly out on the fields. Repeated evaluations of the condition of the winter crops are also required, especially following a period of warm weather when the mass destruction of weak plants can take place.

The optimum criteria for sowing density have been established for all of the winter crop sowing zones and they have been checked on the basis of extensive

practical work. They must be employed for guidance purposes when resolving problems concerned with the resowing or repair of certain fields or determining the measures to be used for tending the crops.

Taking into account the existing conditions and the grain requirements of the Ukraine, Moldavia and the north Caucasus, the resowing should ideally be carried out using corn, which must be grown for grain, and barley; in the forest-steppe regions -- barley, peas and millet; in the non-chernozem zone -- barley, peas and oats. The farms have adequate quantities of seed for these crops at their disposal. The work is carried out as early and as rapidly as possible.

Such fields are tilled to the seed placement depth. The errors of past years cannot be tolerated -- when deep loosening of the soil was permitted during resowing work, thus bringing about extensive drying out of the soil. With a rapid increase in air temperature and drying out of the ground, SZS-2.1 sowing units should be used for the resowing work in order to obtain healthy seedlings without preliminary cultivation. Or the fields can be cultivated using BIG-3 needle-shaped harrows and the sowing carried out using SZU-3.6 grain sowing units.

As a result of severe drought conditions during the autumn of last year in a number of regions along the lower Volga, in the north Caucasus and in the southeastern oblasts of the Ukraine, healthy seedlings never developed on some fields. The same phenomenon has been observed in past years. But at these times the seedlings appeared during the period of winter thaws and with the onset of an early spring such sowings furnished good yields. This year there were no winter thaw periods and thus the spring processes are delayed. Therefore such tracts should ideally be resown.

In particular, special attention should be given to the undersowing of thinned out seedlings. This work should be carried out when it first becomes possible to move out onto the fields. A delay of even just 1-2 days can lead to a considerable shortfall in yield. In order to obtain a high yield, complex mineral fertilizer should ideally be applied simultaneously with the undersowing at the rate of 2-2.5 quintals per hectare. The seed must be placed in damp soil. An undersowing in loose soil is carried out using disk sowing machines and in those areas where the soil is packed and where the winter crops were planted following stubble predecessor crops, use is made of SZS-2.1 stubble sowing machines with the cultivator sweep removed. Extensive cultivation is carried out on packed soils and damaged winter crop areas are resown using spring grain crops and an optimum sowing norm.

An effective method for tending the crops -- spring harrowing. On well bushed-out plantings, it should be carried out during the period of physical ripening of the soil and in one track with tooth harrows. Weakly developed plantings that have not bushed-out well should be cultivated using rotary hoes. This will preclude the formation of a soil crust and lower the evaporation of moisture.

Heaving of the plants is possible in a number of regions as a result of sharp drops in temperature. This danger arises when sowing is carried out following stubble and other predecessor crop arrangements and especially with late tilling of the soil. Studies carried out at the Krasnodar NIISKh /Scientific

Research Institute of Agriculture/ and other scientific institutes have established the fact that early spring packing of ripe soil using ring-lug rollers improves contact between the plant root systems and the soil, accelerates growth in the secondary roots and promotes the formation of a large quantity of stalks.

In the Baltic, Belorussia, in the western and forest oblasts of the Ukraine, in the non-chernozem zone of the RSFSR and on individual fields, the drenching of winter crops as a result of thaw water flooding is possible in the spring. Timely measures must be undertaken here aimed at removing such water. In the TsChO regions and in the Ukraine, importance is attached to singling out all fields and tracts which sustained damage caused by icy crust, carrying out repairs on these areas and completing an undersowing of spring wheat or peas. An active campaign is being waged against mouse-like rodents in the southern regions, with bait containing various rodent poisons being scattered about.

A special role will be played by top dressings and, when required, by applications of full fertilizer dosages: in the process, the increase in grain yield will amount to an average of 6-8 quintals per hectare. The fertilizer dosages are changed depending upon the schedules for active regeneration of the spring vegetation. In the case of a late spring, all of the agrotechnical measures must be directed towards accelerating the growth and development of the plants. If there are good moisture conditions, this can be achieved by raising the dosages of nitrogen and applying it in split applications to the damp soil.

Top dressings are started first of all in those areas where mineral fertilizer was not applied in the autumn. They are carried out during the early periods when the upper soil layer is damp and the plants are experiencing an acute shortage of nitrogen. As a rule, aviation is employed on such fields. On the remaining fields, the first top dressing should be carried out towards the end of the tillering phase using the root method (grain-mineral fertilizer sowing machines). This agricultural method must become the principal one in use this year.

The second top dressing is carried out during the shooting phase, when the first stalk nodule is observed on a stalk.

In regions of adequate moisture, 30 percent of the overall computed nitrogen norm is applied initially and thereafter -- 50 percent, but not more than 80 kilograms per hectare. In the arid zones and under conditions involving a rapid drying out of the soil, the first top dressing is carried out at one half of the norm. The dosages are defined more precisely based upon the results of soil and plant diagnostics and also the degree and rates of development for the vegetative bulk of the plants.

The agronomic service must focus special attention on those sowings being cultivated on the basis of intensive technologies. Their area in the country amounts to 6.6 million hectares. In addition to strict observance of the norms and dosages for fertilizer applications, attention must also be given here to maintaining uniform applications (ensuring that all areas are covered and that there is no overlapping coverage), since this can lead to lodging of the



plants. Strict control must be established to ensure that all machines in use are in proper working order.

Extreme importance is being attached this year to obtaining high quality grain of strong varieties of winter wheat in the steppe regions of the Ukraine, Moldavia and the north Caucasus and also strong and valuable varieties in many oblasts of the Ukraine, the central chernozem zone and in the Volga region. Towards this end, a determination should be made at the present time as to those fields which will supply such grain.

In order to obtain this grain, special importance will be attached to applying a foliar nitrogen top dressing to the sowings during the period from heading to the commencement of grain formation, in a dosage of 30-40 kilograms per hectare. In the event of insufficient moisture, this operation can be carried out by spraying a solution of carbamide at the rate of 30 kilograms of nitrogen dissolved in 150-200 liters of water.

The danger of grain crops lodging increases considerably when the nitrogen dosages are raised, especially on fields on which an intensive technology is being employed. In such instances the sowings are treated with a growth regulator: wheat -- chlorcholinechloride (TUR), rye -- kampoza or a mixture of it with TUR. Winter wheat is sprayed with retardants during the phase which includes the end of tillering - commencement of shooting and rye -- during the middle of stem growth. The carrying out of treatments at this time promotes a maximum reduction of a stalk by means of lower internodes. Spraying carried out during earlier periods can bring about a reduction in the number of spikelets and a considerable reduction in yield.

Winter wheat can be treated with TUR simultaneously with an application of the 2.4-d herbicide and urea. In addition to raising the resistance of cultivated plants against lodging, such a mixture also promotes the destruction of weeds, growth in yields and an improvement in the quality of the grain. When necessary, a treatment with chlorcholinechloride can be combined with the use of chemicals against pests and diseases. Growth regulators should not be used on poorly developed or sparse sowings.

In past years, a portion of the batches of grain in a number of regions in the Ukraine, lower Volga region and the north Caucasus was of low quality as a result of damage inflicted on the winter crops by the stink bug. An inspection has revealed that the bug wintered very well this year. Thus an entire complex of plant protective measures must be carried out in a timely manner.

In a number of areas, increases have taken place in the numbers of Swedish, Hessian and other grain flies. In recent years the leaf beetle has also caused damage to the sowings. In this regard, border treatments of fields should be carried out using insecticides and when the pest numbers have reached the damage threshold -- continuous treatments.

With the onset of warm weather in the southern regions of the country, the number, age structure and period for the appearance of the larvae of grain beetles must be established. For providing protection against this pest, the recommended preparations should be applied in a timely manner.

During the autumn, favorable conditions prevailed for the development in the winter crops of a dangerous disease -- brown rust. In combating this disease, it is recommended that the sowings be treated with Sineb. This work should be carried out during the tillering phase for the plants.

Winter crops which are under cultivation using the intensive technology should be treated with Tilt or Bayleton for combating rust. Applications of these preparations will also promote a reduction in the amount of harm caused by powdery mildew and root rots. The farms have been provided with highly effective fungicides, insecticides and herbicides for carrying out work concerned with protecting sowings against pests and diseases. The agronomic service is responsible for ensuring that these resources are used correctly.

The timely carrying out of all agrotechnical measures concerned with the tending of crops will make it possible to provide fine protection for the winter crops and obtain a high yield from each hectare.

7026

CSO: 1824/332

RESOWING OF WINTER GRAIN CROPS IN UKRAINIAN SSR

Moscow SEL'SKAYA ZHIZN' in Russian 9 Apr 85 p 2

/Article by A. Soldatskiy, Ukrainian SSR: "Restoration of Winter Grain Crop Sowings"/

/Text/ In the steppe zone of the Ukraine, the Kuban' region, Stavropol Kray and in many other regions throughout the country, winter wheat is considered to be the principal bread grain. It occupies the highest proportion in the grain balance. But the winter grain crops often suffer either from autumn drought conditions or from low temperatures during the winter. Statistics underscore the fact that even during years marked by very favorable climatic conditions, up to 10 percent of the winter crops in the southern Ukraine must be resown and during difficult seasons -- an even greater percentage.

Such complexities bring about a sharp reduction in the gross yield of bread grain. Indeed, winter wheat is resown using mainly spring barley, peas and corn. Moreover, in the majority of instances spring barley is the "insurance" crop. And in many areas it furnishes a lower yield.

Many kolkhoz and sovkhos specialists have stated during discussions: "Spring wheat should ideally be used as an "insurance" crop in those instances where winter wheat has perished or its sowings are very sparse." Here the agronomists of the older generation recall that it was grown some time ago in the southern Ukraine and that it was removed from the fields owing to its low yields. This automatically raises the question: Is it possible that the plant breeders are unable to develop a spring wheat variety that could produce a high yield in the local areas here?

I addressed this question to VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/ Academician F.G. Kirichenko. I learned from both him and his colleagues that the Department for the Breeding of Wheat of the All-Union Plant Breeding-Genetics Institute is carrying out work on the development of high yield and drought resistant varieties of spring wheat, but since this is not the department's principal crop the chief attention of the plant breeders is being given to winter wheat. And the institute has achieved success in this direction.

Thus spring wheat continues to be a matter of secondary concern for the department, since neither the USSR nor the Ukrainian ministries of agriculture



have submitted orders or requests for it. Nor has it been requested by the food workers. In addition, the economists have had very little to say regarding this crop.

"Nevertheless, we have not forgotten spring wheat," stated F.G. Kirichenko, "Too much attention has already been given to it. But the most important consideration is that of ensuring that the grain growers are provided with a genuine insurance crop for use in resowing a portion of the winter wheat. It would be wrong to merely stand idly by and watch a cultivator 'walk across' thinned out sowings."

It bears mentioning that in the spring, when it becomes obvious that a portion of the winter crops must be repaired, "messengers" sometimes come to the institute from the farms with a request to release spring wheat seed. But can the institute really satisfy their requests? Moreover, it cannot even furnish advice as to where such seed can be obtained, since nobody in the southern Ukraine is engaged in producing seed for spring wheat.

It should be emphasized in particular that the arsenal of the Odessa plant breeders includes spring wheat varieties which are capable of furnishing up to 40-50 or more quintals of grain per hectare. In 1974, for example, the very valuable durum spring wheat variety Nakat was regionalized. This variety is resistant against lodging and various diseases. Its grain is vitreous and contains 32-38 percent gluten and 15-16 percent protein. This variety was intended for use in Odessa, Kherson and Aktyubinsk oblasts. But it is being employed actively only in Aktyubinsk Oblast, where it is producing high yields. And in the Ukraine nobody so much as asks for this variety, although it is also capable here of furnishing high yields -- 25-30 quintals of grain per hectare under production conditions and on fields of Gossortset' /state strain testing network/ up to 48 quintals.

The Fontan durum wheat variety is also of interest. During competitive testing it furnished 46-60 quintals of grain per hectare and in 1984 at the Put' K Kommunizmu elite seed production farm in Kotovskiy Rayon in Odessa Oblast it produced a yield of 50.4 quintals. It is a medium to low growing variety, it has large grain, it is lodging resistant and it is suitable for cultivation on irrigated lands.

The breeding department has one more completely new durum spring wheat variety -- Zhuravka. It was developed by crossing one of the world's best varieties of spring wheat Saratovskaya-29 with Odesskaya-16 winter wheat. It is a high yield variety and its grain has good baking qualities. The institute continues its work concerned with the creation of new varieties of this crop.

It is apparent that the plant breeders have a reserve of highly productive spring wheat varieties. And nevertheless there are hundreds of thousands and millions of hectares of winter wheat which, just as in the past, are being resown and undersown in spring barley.

A question arises: is it possible that it would be more profitable for the farms to plant their spring fields in barley? In this instance, let us look at the results obtained for example in Odessa Oblast. Last year, spring barley was

planted here on more than 231,000 hectares and a yield of 26.7 quintals of grain per hectare was obtained. Spring wheat was sown on only 268 hectares and a yield of 28.6 quintals of grain obtained from each such hectare. The wheat was grown on non-irrigated land and yet, as you can see, its yield was higher than that for the barley, not to mention the quality of the grain. In Kiliyskiy Rayon, a yield of 46.2 quintals of spring wheat was obtained from each of 48 hectares, whereas spring barley produced only 31.6 quintals, although it was grown on 5,560 hectares, including 1,770 hectares of irrigated land.

Similar results were obtained in Nikolayev, Kherson and other oblasts, where it was necessary in 1984 to resow a portion of the winter wheat.

Great opportunities for expanding the sowings of spring wheat have opened up in connection with the development of irrigation in the southern Ukraine. Irrigated lands are intended first of all for the growing of valuable crops. It would appear that nobody can claim that barley and oats are more valuable than spring wheat. Nevertheless, again this year all of the oblasts in the southern Ukraine plan to resow their damaged winter wheat sowings using spring barley. Considerable areas have been allocated for spring barley even on irrigated lands.

At the All-Union Plant Breeding and Genetics Institute, I was shown a letter received from the director of the Risovyy Sovkhoz in the Crimean Oblast I.N. Gayduk and the farm's chief agronomist G.V. Krupoderova. They reported on the results achieved from the growing of spring wheat on rice checkplots. In conformity with the crop rotation plan, each year the sovkhoz sows up to 900 hectares of alfalfa on its checkplots under a cover of spring barley. The grain is harvested in the summer and by the end of the season two cuttings of alfalfa fodder are obtained. In 1984 the decision was made to sow a portion of the area in Nakat wheat in place of spring barley and a yield of 40 quintals of grain was obtained. Here the plans call for an expansion in the sowings of spring wheat as a cover crop for alfalfa. The institute decided to supply the sovkhoz with seed for the Fontan spring wheat variety, which is capable of furnishing not less than 50 quintals of grain per hectare under irrigation conditions.

This is an example of personal initiative on the part of the farm's leaders.

Importance is attached to ensuring that such initiative is not suppressed by various types of instructions, such as occurred in the case of the Parus durum winter wheat variety. Indeed the sovkhoz is cultivating unplanned grain. Such difficulties have already surfaced in connection with the sale of durum wheat on many farms in the southern Ukraine.

But the most important question at the present time is how best to solve the problem of seed production for spring wheat. The main grain administrations of the ministries of agriculture for the USSR and the republic are still not planning to propagate it and this means that again this year the farms will not be able to supply the grain growers with seed for this valuable crop. It is believed that it would be most desirable for each farm to have an area (30-40 hectares) set aside for the propagation of spring wheat in the event partial resowing of winter wheat is required. If there is no need for the spring wheat,

then following the harvest the old grain can be sold to the state and from the new crop seed can be laid away in the insurance fund.

The time is at hand for planning work directed towards the breeding of new varieties of spring wheat and not just for non-irrigated land but irrigated tracts as well. Unfortunately, even at the All-Union Plant Breeding and Genetics Institute proper attention is not being given to this question. Not one hectare of irrigated land has been set aside here for use by the Department for the Breeding of Wheat in carrying out work with spring wheat and how is it possible to develop a reliable variety for irrigation conditions if it is created on non-irrigated land? The October (1984) Plenum of the CPSU Central Committee set forth a specific task: to raise the effectiveness of irrigated land throughout the country. And this means that the irrigated land must be employed primarily for cultivating highly productive and valuable food crops, among which an important role must be played by durum spring wheat.

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## BRIEFS

SOWING BEGINS--Chimkent Oblast--The rays of the spring sun have melted the snow and the earth has begun to steam. Without losing time farmers have begun sowing spike crops. The sowing pace is especially rapid right now in the enterprises on the left bank of the Syrdar'ye, the Turkestan Steppe and Kelesskaya Valley. The oblast's grain farmers have set themselves the task of producing the maximal quantity of grain during the final year of the five-year plan--no fewer than 1.1 million tons. The struggle for the harvest has been made more difficult by the fact that frost has damaged a portion of winter stands. This is why it will be necessary to sow spike crops on an area triple the planned size. RAPO [Rayon Agro-Industrial Association] headquarters are carrying out maneuvers with technology, which enables farmers to rapidly carry out pre-sowing cultivation of arable land and sowing on small plots without waiting for the maturation of the soil on large land areas. Technology is being used in two shifts. In Chardarinskiy, Kelesskiy and Saryagachskiy and a number of other rayons, machine operators from industrial enterprises and building organizations have come to help farmers. They have taken upon themselves the delivery of fuel, lubricants and seed to units and the cleaning of the irrigation network. The area in Zavet barley, which yields 3-5 quintals of grain per hectare more than the previously regionalized varieties, all other things being equal, is being increased. [Text] [Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 24 Mar 85 p 1] 8228

WINTER CROPS SOWN--Semipalatinsk, 21 [Aug]--Over 450,000 hectares will be occupied by winter crops on oblast fields this year. This is almost double last year's area. This important work is being done best in the enterprises of Borodulikhinskiy, Zhanasemeyskiy and Zharminskiy rayons. [By Ye. Anakin] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 22 Aug 84 p 1] 8228

WINTER CROP AREA EXPANDS--Alma-Ata (TASS)--The farmers of the eastern oblasts of Kazakhstan, who are completing fall sowing, doubled the area in winter crops. Wheat and rye occupy 0.5 million hectares here. They have been planted primarily on fallow land; mineral fertilizer has been applied to the interrows. [Text] [Moscow TRUD in Russian 3 Oct 84 p 1] 8228

DEPENDABLE WINTER CROPS--Semipalatinsk, 13 [Sep]--In the enterprises of Semipalatinsk Oblast winter crops are considered to be the most dependable grains. For example, in Taskeskiy Rayon every hectare occupied by them yielded almost double the harvest of spring crops. This is why the fall-sowing area

is being expended in most enterprises. Urdzharskiy Sovkhoz has earmarked 17,000 hectares for wheat. Aksuatskiy Sovkhoz has quadrupled its area in winter crops. A large proportion of winter crops is placed on clean fallow. Grain farmers are striving to complete the sowing of winter crops in the near future. [By V. Yelufimov] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 14 Sep 84 p 1] 8228

LAND PREPARATIONS--Kustanay--The enterprises of Borovskiy Rayon are preparing land for next year's harvest at a rapid pace. During the last 10 days they have worked 32,000 hectares, more than anyone else in the oblast, with sweeps. A business-like concern for late-fall plowed fields is being demonstrated by the grain farmers of Kustanayskiy, Naurzumskiy and other rayons. In the oblast over 200,000 hectares of late-fall plowed fields--almost triple the amount of last year--have been worked. [Text] [Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 6 Sep 84 p 1] 8228

SOIL CONSERVATION EMPHASIZED--Alma-Ata (TASS)--The farmers of a large area in northern Tyan'-Shan'--Alma-Ata, Taldy-Kurgan and Kzyl-Orda oblasts--have begun sowing spike crops. Following the example of virgin-lands farmers, most enterprises here have given preference to the soil-conservation system of farming. The plow has given way to the sweep. The usual sowers are stubble sowers. In the semi-desert, enterprises sow wheat, barley and peas together in strips 60 meters wide, with strips of wheat grass [Agropyron] in strips of the same width. Under the protection of grasses, crops withstand dry winds better and soil erosion is completely avoided. The effectiveness of the strip distribution of crops and of the sweep cultivation of soil is strengthened by protective timber belts which cross the field many times over against the wind. These belts decrease the force of the wind and increase the moisture-retention of the arable land. Grain farmers apply mineral fertilizer into the rows together with seed. Grain farmers allocated only 5 days to the sowing of spike crops. Large-group use of technology in two shifts and good organization of of machine servicing in the fields will help to accelerate work. [Text] [Moscow TRUD in Russian 7 Apr 85 p 1] 8228

INTENSIVE TECHNOLOGY--Tselinograd, 5 [Apr]--Beginning this spring, oblast enterprises will raise spring wheat according to intensive technology on an area of 900,000 hectares. Agrotechnical measures for this have been worked out everywhere and the best lands and clean fallow fields have been determined. [By G. Nagayev] [Moscow SEL'SKAYA ZHIZN' in Russian 6 Apr 85 p 1] 8228

NORTH CAUCASUS CROP WORK--It is necessary to plant spring crops on more than 9 million hectares and to recondition 1,129,000 hectares of winter crops in the North Caucasus. Farmers in the south of Russia are in a Number 1 state of readiness. They are already making test runs on fields and doing selective under-sowing of winter crops. Grain growers have repaired all equipment and stored up seed. Quality is highest at farms in Stavropol Kray, the Kuban and Kabardino-Balkariya. It is somewhat lower in Dagestan and the North Osetian ASSR. Unfortunately, for the region as a whole, in January, February and March 5 million tons less organic fertilizer was applied than during the same period last year. Especially small amounts of compost were prepared in the Chechen-Ingush ASSR, where farmers let down their partners in the agro-industrial complex -- Sel'khozkhimiya and Sel'khoztekhnika. More than 53 percent of the land area has now been assigned to contract collectives. This is almost one-third more than last year. Cross checks between farms show that unregulated brigades and links have prepared for field work with special care. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 31 Mar 85 p 1] 11574



ROSTOV WINTER CROPS--(Rostov na Donu)--The first million hectares of winter crops have been planted in the oblast. Farms in Sholokhovskiy, Verkhnedonskiy, Bokovskiy and other northern rayons are rapidly completing the fall planting. Planting operations are also gathering speed in the central and southern regions of the Don. Winter crops will be grown by intensive technologies on 300,000 hectares. The crops will be planted on well worked soil, with the necessary amounts of fertilizer. Starting applications will be applied simultaneously with the planting of high quality seed. Progressive collectives of grain drill units are overfulfilling shift norms for output and doing high quality work [By Yu. Maksimenko] [Moscow SEL'SKAYA ZHIZN' in Russian 11 Sep 84 p 1] (Rostov-na-Donu) The total area of winter crops now exceeds 1.8 million hectares. This is more than last year. Healthy shoots have sprouted almost everywhere. Farmers have surveyed the crops' conditions, are carefully tending to them, are eradicating the nests of rodents and other agricultural pests and are top dressing the plants with mineral fertilizers. Kolkhozes and sovkhozes in Sholokhovskiy, Millerovskiy, Krasnosulinskiy, Oktyabr'skiy, Tselinskiy, Zimovnikovskiy and other rayons have overfulfilled targets for fall top dressing. Fertilizers were applied to winter crops on 350,000 hectares, including 80,000 by using the progressive root-level method. [By Yu. Maksimenko] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 20 Nov 85 p 1] 11574

ROSTOV WINTER CROP FERTILIZATION--Rostov-na-Donu--Spring work has begun on winter crops in the oblast. Agricultural aviation services are helping to apply nitrogen fertilizers to crops in the melting soils. Fertilizers have already been applied to the first tens of thousands of hectares of crops on farms in Proletarskiy, Tselinskiy, Azovskiy, Zernogradskiy, Kuybyshevskiy and other rayons. In all, it is intended to fertilize 800,000 hectares of winter crops this spring. Daily monitoring of crop condition has been set up at farms and each section is inventoried. Specialists from RAPO's and farms are determining the techniques of crop care and improvement for each field. Potassium salts are scattered on ice crusted fields to melt them. The slogan for spring work is: "Each Hour to the Future Harvest!" [By Yu. Maksimenko] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 31 Mar 85 p 1] 11574

FERTILIZERS APPLIED--Groznyy--Chechen-Ingush aviators have begun the aerial top dressing of grain crops with mineral fertilizers. Pilots from the Groznyy Aviation Enterprise are covering more than 200,000 hectares daily. [Text] [Moscow TRUD in Russian 16 Feb 85 p 1] 11574

SPRING PLANTING--Groznyy--Working on a speeded up schedule, farmers at the Gvardeyskiy Sovkhoz in Nadterechniy Rayon completed planting work on 600 hectares in 40 hours, 2 hours earlier than the planned deadline. Farmers are now carefully preparing the soil for corn, which will occupy 500 hectares. Because spring was very late in coming, there is a high pace and quality to the planting of spring crops at the 40 let Oktyabrya and Ataginskiy Sovkhozes and other farms in the Autonomous Republic. [By S. Lorsanukayev] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 15 Apr 85 p 1] 11574

CROPS TOP DRESSED--Ordzhonikidze--Farmers in the North Osetian steppe regions completed the top dressing of crops today. Mineral fertilizers have been applied to more than 45,000 hectares. Machinery operators in the foothills zones are rapidly top dressing winter crops. [By TASS] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 17 Mar 85 p 1] 11574



RAPO MONITORS NORTH OSETIAN WORK--Ordzhonikidze--Unstable weather does not hinder North Osetian farmers in expanding field work: planting time has come to the foothills zone, where the ground warms up later. Under the control of the RAPO agronomic service, machinery operators, who have concentrated all equipment in 150 large units, are planting grain and feed crops. Sizable areas in the alpine zone are devoted to alfalfa. [By TASS] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 11 Apr 85 p 1] 11574

KRASNODAR SPRING CROPS--Farmers in Otradnenskiy, Novokubanskiy, Korenovskiy and other rayons in Krasnodar Kray have planted early spring crops on 120,000 hectares. Following the Kuban, field work is in full swing in the Dagestan, Kabardino-Balkar and North Osetian ASSRs. [By N. Uvarov] [Excerpt] [Moscow SOVETSKAYA ROSSIYA in Russian 5 Apr 85 p 1] 11574

SPRING WORK IN DON AREA--Rostov Oblast--The larks were late coming to the Don and so was the spring, but it did arrive rapidly and steadily; the snow disappeared from the fields in only one and a half to two days. However, farmers have not yet had large amounts of heat. It still freezes at night. Machinery operators are waiting. The equipment has long been ready, but, as they say, they have not crossed the threshold to harrowing. Southern winds started blowing across the steppe, and plough operators at the Kolkhoz imeni Kalinin started driving their harrow units out onto the drying fields. Cross checks of equipment here have shown that everything is in excellent repair. A few days ago they completed the application of nitrogen fertilizer. Grain growers are ready at the Pobeda Kolkhoz in Rodionovo-Nesvetayskiy Rayon. The party committee here has assigned communists to the most important sections. Special links for ideological and cultural-personal services help in making the planting rapid and well organized. "This spring we were more careful in working out conditions for competition," said M. Antonenko, secretary of the kolkhoz party committee. "High quality work is paid 150 percent of the wage rate and the final payment is according to yield." Brigades and links of plough and grain drill operators are supplemented by graduates from the SPTU (Rural vocational-technical institution) and general machinery operator courses. This will support the two shift operation of machinery. [By V. Zanozi, special correspondent] [Text] Moscow SOVETSKAYA ROSSIYA in Russian 31 Mar 85 p 1] 11574

HIGH WHEAT YIELDS IN KRASNODAR KRAY--This year farmers in Kagal'nitskiy Rayon gathered more than 40 quintals of winter wheat following clean fallow. The entire wheat crop, occupying more than 20,000 hectares, produced an average of 36.6 quintals of high quality grain per hectare. For the final year of the five-year plan farmers here planned to harvest 2-3 quintals per hectare more than was obtained this year. They made timely and careful preparations for the new harvest. The soil was worked by nonmoldboard methods, the amount of fertilizer called for by the technological charts was applied and provisions made for top dressing. Stubble drills were used to plant high quality seed. The planting of strong varieties of wheat has been expanded. It is planned to have yields of at least 45 quintals per hectare. Farms in Yegorlyskiy, Zernogradskiy, Sal'skiy, Proletarskiy, Okryabr'skiy and other rayons rapidly planted winter crops in a manner meeting high standards. The entire winter crop in the Don area occupied 2 million hectares, about 300,000 of which went to strong wheats. [Text] [Krasnodar SEL'SKIYE ZORI in Russian No 10, Oct 84 pp 22] 11574

A NEW TECHNOLOGY--Saratov, 9 Aug--The kolkhoz and sovkhos farmers in Saratov Oblast are completing their cultivation of fallow in behalf of next year's harvest. This year, in accordance with scientific recommendations, a complex of agricultural methods has been included in the pre-sowing preparations. This includes a campaign against weeds, fertilizing the soil, improving the seed to 1st class sowing condition and water supply irrigation for irrigated tracts. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 10 Aug 84 p 1/ 7026

PLOWING COMPETITION--Saratov--A competition for plowing personnel has unfolded on the kolkhoz and sovkhos fields in Saratov Oblast. Of 4 million hectares which must be plowed in behalf of next year's harvest, almost one half is being cultivated using sweeps. /Text/ /Moscow TRUD in Russian 17 Aug 84 p 1/

FLOOD CONTROL MEASURES--The republic Governmental Committee for Combating Natural Phenomena held its regular meeting. The chief of the Ukrainian republic Administration for Hydrometeorology and Control Over the Natural Environment N.P. Skripnik delivered a report on the flood conditions which had developed on rivers throughout the republic. As expected, the flood was to reach peak conditions 8-10 days earlier than usual. As a result of a warm period which commenced on 5 March, the ice crust has weakened in the Tisa and Prut river basins and flood conditions have commenced on the Dnepr River. Ice blockages are possible here with the opening up of the rivers. The supply of moisture in the snow and icy crust in the upper portion of the Dnepr River Basin exceeds the norm by twofold. With higher water levels in the rivers and with the water spilling out onto the flood plains, partial flooding is possible in a number of low-lying regions around Kiev, Chernigov, Sumy, Poltava, Kharkov, Voroshilovgrad, Kirovograd and a number of other populated points in the republic. The leaders of Minvodkhoz /Ukssr Ministry of Land Reclamation and Water Resources/, Mindorstroy /UkSSR Ministry of Highway Construction and Maintenance/, Minsel'khoz /UkSSR Ministry of Agriculture/ and the republic's Civil Defense Staff furnished information on work carried out in providing reliable protection for bridges, dams, dikes and sluices and other hydraulic engineering installations against ice movements and spring flood conditions. It is emphasized that measures undertaken in a timely manner will aid in preventing the undesirable consequences of flood conditions. A speech was delivered during the meeting by the deputy chairman of the UkSSR Council of Ministers P.Ye. Yesipenko. /Text/ /Kiev PRAVDA UKRAINY in Russian 19 Mar 85 p 3/ 7026

MASS SOWING OF GRAINS--Saratov--The mass sowing of grain crops on kolkhozes and sovkhoses in Saratov Oblast is being accelerated. More than 1,300 complexes consisting of approximately 50,000 machine operators are in operation out on the spring fields. The Yershov and Kalininsk associations of raysel'khoztekhnika have organized around-the-clock service for the repair teams directly out on the fields. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 26 Apr 85 p 1/ 7026

NORTH OSETIAN RAILROAD HAULS CORN SEED--Ordzhonikidze--Railroad workers in the North Osetian ASSR are working on the harvest for the final year of the Five--Year Plan. They have started the massive loading of corn seed for farms in the country's northern regions. Exactly on schedule, freight cars full of first class seed hybrids are moving out to farmers in the Nonchernozem oblasts of the Russian Federation and in the Volga and Urals. The newest equipment, powerful driers and ventilators make it possible for the specialized enterprises to beat the schedules for preparing seed stock. [By TASS] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 12 Feb 85 p 1] 11574

SEED SACK LOADING SCAFFOLD--Ordzhonikidze--A scaffold for the mechanized loading of sacks full of seed corn into railroad cars has been built at the Beslanskiy Grain Products Combine. The innovation eases workers' labors and reduces their numbers four fold. Forty tons of grain per hour are now loaded into freight cars. Corn seed is being prepared in a new way. It is treated by a special film forming compound which applies poisonous chemicals to it. The new method has already been used on 3,000 tons of corn seed at the Alagirskiy Sales Base and at the Ardonskiy and Digorskiy Grain Products Combines. [By SEL'SKAYA ZHIZN' correspondent S. Lorsanukayev] [Moscow SEL'SKAYA ZHIZN' in Russian 22 Feb 85 p 1] 11574

CSO: 1824/271

## KAZAKH LIVESTOCK WINTERING, FEED UTILIZATION DISCUSSED

## Feed Problems Indicated

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 20 Feb 85 p 1

[Editorial article: "Completing Overwintering Successfully"]

[Text] Annual production within the republic's livestock complex is valued at over 5 billion rubles. This is a weighty contribution to the country's food resources. The plans for the final year of the five-year plan and for the period to 1990 foresee the continued dynamic development of the complex and a significant increase in the volume of production output. As determined by the USSR Food Program, in Kazakhstan meat output from state resources will increase by a factor of at least 1.5 in the course of the current **decade** output of whole milk products--by a factor of 1.4 and of cheeses--by a factor of 1.5.

The republic's livestock farmers have carried out considerable work to implement the aforementioned. During the years of the five-year plan there was a growth in procurement of livestock and poultry and gross milk yield increased. Despite the complications arising from this winter's anomalies, branch workers are not yielding the positions they have won. The volumes of meat procurement have increased in the enterprises of Taldy-Kurgan, Dzhambul, Alma-Ata, Chimkent and Tselinograd oblasts to a larger extent than during the same period last year; products are being delivered from farms and dairy complexes of Kokchetav, Kustanay, Karaganda and several other oblasts. There is confidence that in the republic as a whole the first-quarter plan for the procurement of livestock products will be fulfilled.

In agriculture no two years are alike. The special feature of the current year is that in the face of inadequate supplies of feed livestock farmers are still achieving a preservation and in many cases--an increase, in herd productivity. At the same time we have noted many cases in which with the same or even better feed supplies enterprises do not achieve the necessary milk yields and weight gains.

What is the reason for such a paradox? In the course of a relatively long period of time the orientation locally was mainly toward grain concentrates. It was felt that the more grain forage in animal feeding troughs, the higher

the productivity indicators of animals. Certain stereotypical concepts arose. Some directors can no longer imagine managing beef and dairy farming without so-called grain or strong feeds. However, the strength of feed lies not in its caloric content but in its balance of nutritive substances. Thus, it is not surprising that although the consumption of grain forage doubled in dairy farming and tripled in livestock raising during the 1970's, there was no noticeable increase in milk yield and weight gain. The cow is not a grain but a herbivorous ruminant. We must deal with this natural characteristic and the animal's feed ration must correspond as closely as possible to its physiological digestion system. Grain forage is appropriate and even necessary up to a certain point. Its zootechnical norms are well-known and their random growth is not repaid with the desired productivity. But since the concentrate is the most digestible type of feed, some directors began to compensate for low-quality coarse and succulent feeds produced in enterprises with grain forage. Now that there is barely enough concentrated feed, these gaps in the feed base have come to the fore. This year's overwintering period clearly showed which enterprises have directors and specialists who are seriously involved in feed production and in the formation of feed production as an independent branch and which enterprises have directors and specialists who only talk about this. In places where there is a real and stable foundation the overwintering period is not particularly intensive. We must now evaluate directors not by their words but by their deeds.

Now the course and results of overwintering will depend not only on the availability of feed units but on the skill to distribute them properly. First of all it is essential to strengthen the regimen of economizing on feeds, and to even make it stronger. But this in no way means that animals should be placed on semi-starvation rations. Our knowledge about feeds is growing rapidly. With the help of protein-vitamin supplements and biologically- and chemically-active substances it is possible to improve the nutritive value of any, even a coarse stem-containing, feed and to make it fully digestible to animals. Utilizing feeds efficiently means creating conditions in which all nutrients available in the feed can be assimilated by animals. This can be achieved only by introducing an active technology for processing forage in feed shops and by creating rations which take the physiological and age characteristics of livestock into account.

Meanwhile, almost half of all coarse feed is given to livestock without preliminary processing. This is such wastefulness that it is hard to come to terms with it. However, a large percent of waste in hay and straw is to be explained by more than mismanagement. Many specialists who have assimilated well the various types of concentrated feeding of livestock become lost when it comes to developing new, broad-profile recipes for feed mixtures and cannot make up their minds to use feed enrichers as supplements. In part this can be explained by the absence of clear scientific recommendations which would consider zonal characteristics of Kazakhstan's livestock complex. This deficiency is made up for to a certain degree by the recipes for enriched feed mixtures recommended by the Kazakh Scientific-Research Technological Institute of Livestock Raising published in the 24 January 1985 issue of KAZAKHSTANSKAYA PRAVDA. According to responses received by the editors, the use of these recipes in enterprises has already yielded positive results and



has contributed to a growth in milk yield of the herd. Under present circumstances it is essential to find and utilize the most optimal variant for feed consumption and to more boldly introduce the latest achievements of science into the practice of livestock raising.

Within the livestock complex the problem of providing branch workers with housing has practically been solved, almost all livestock is housed during the winter, farm enterprises have been equipped with the means of mechanization and electrification on a contemporary level and breeds of cattle characterized by a high genetic potential have been developed. But today the most serious problem, more serious than the cadres problem, is that of feeds. The transformation of feed production into a specialized branch is today's urgent task. New feeding norms take into account the real needs of animals for energy, dry substance, carbohydrates, protein and vitamins. These norms not only differ considerably from previous ones, they also require different components for mixtures. This is why already today every enterprise must carefully think out the structure of the feed crop area in order to create optimally-proportioned feed reserves for the future stall-upkeep period.

The October 1984 Plenum of the CPSU Central Committee pointed to the necessity to create large zones of guaranteed agricultural production output on an industrial basis, including zones of feed production. "It is urgent," noted the General Secretary of the CPSU Central Committee, Comrade K. U. Chernenko, in his speech at the plenum, "to set natural feed lands in order. We must begin working on increasing the productivity of all meadows and pastures without delay and with all our effort and persistence."

There is a great deal of such work in this direction in our republic. It is essential to more energetically expand the area in winterfat, izen' [Translation unknown] and other drought-resistant grasses in the huge zone of arid pastures and to improve the seed farming of alfalfa. The Ural-Kushumsk Irrigation-Flooding System in western Kazakhstan and a number of other artificial limans require serious reclamation. In order to increase feed production we must more widely utilize the possibilities of alfalfa-rice crop rotations in the Kzyl-Ordinskiy Oasis and more rapidly introduce zones of guaranteed feed production into operation in the Semipalatinsk Trans-Irtysh region. It is important to focus the attention of agro-industrial associations, branch workers and all village communists on solving similar priority tasks.

Consistent and persistent work to develop and strengthen the feed base of the livestock-raising complex is the foundation for further success within the branch and for increasing the branch's contribution to the fulfillment of the USSR Food Program.

#### Raise Productivity, Eliminate Deficiencies

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 27 Feb 85 p 1

[Editorial article: "While Completing Overwintering"]

[Excerpt] With extremely low herd productivity, in Dzhetygarinskoye Agro-Industrial Association of Kustanay Oblast in 1984 milk yield per forage cow



dropped by 218 kilograms and average daily weight gain in cattle equalled 212 grams. With such indicators is it possible to talk about production economy? In the rayon breeding work is not done, legumes are absent from crop rotations, feed shops do not operate and livestock requirements for protein, vitamins and mineral elements are not taken into consideration. All of this leads not only to a decrease in the productivity of animals but also to an overexpenditure of feeds, even when they are in short supply. For each kilogram of weight gain or of milk 3-5 times more feed units are expended here than required by the norm. In this way, mismanagement brings losses to farms that cannot be made up for in any way.

In order to place livestock raising on a qualitatively-new level of development, a long-term program has been developed and started in the republic to reproduce pure breeds and to crossbreed livestock of mixed breeds. It will allow us to significantly raise the productivity of animals within a short period of time. Most party committees and management organs immediately adapted it and are already achieving noticeable successes in this work.

But any new and useful matter can be destroyed at its inception if the attitude toward it is formal, soulless and bureaucratic. This is exactly what happened at Petropavlovskiy Breeding Sovkhoz of North Kazakhstan Oblast. Instead of helping to improve the breed composition of livestock in the entire oblast, workers here neglected even their own dairy herd. Last year milk yield per forage cow decreased by 428 kilograms and equalled 1,904 kilograms. In Tarangul'skiy Sovkhoz of this same oblast each cow produces 2.1 kilograms of milk daily.

In a number of enterprises of Turgay Oblast work on the purposeful selection and raising of pedigree young has been neglected. The dairy herd is replenished with highly productive animals primarily by means of imports from other oblasts and republics. Progressive forms of labor in livestock raising are practically not introduced at all on farms. RAPO [Rayon Agro-Industrial Association] councils are also doing poor work in this area.

An important reserve for increasing the productivity of livestock involves the skilful organization of feed preparation. The good organization of enrichment with yeast alone allows leading enterprises in the republic to increase the protein content of rations by 15-20 percent. The thermo-chemical treatment of straw increases its nutritive value by a factor of 1.5. The preparation of feed mixtures is of primary importance.

Unfortunately, these reserves for increasing the nutritive value of feeds and for achieving the full value of rations is not utilized in full measure everywhere.

In almost half of the enterprises of Guryev Oblast feed is placed in feeding troughs without preliminary preparations. In the sovkhoses of Inderskiy, Makhambetskiy, Novobogatinskiy and Embinskiy rayons even serviceable feed shops are not operating. What does this lead to? Milk yield and weight gain drop.

In comparison to the same period last year epizootic disease in livestock increased by a factor of 2.5; in sheep and goats--by 12 percent.

A powerful factor in improving labor activeness on farms and in increasing labor productivity is well-organized socialist competition. In this regard a great deal is being done by the party committees of Kokchetav Oblast. Recently the buro of the party obkom approved the initiative of the leading milkmaid in Privol'nyy Sovkhoz, T. G. Knodel'. She called upon her friends to increase their personal responsibility for the assigned work section and to struggle persistently to increase labor productivity on farms. Many labor collectives, having accepted her challenge, fulfilled plans for the first quarter of 1985 by 24 February--the day of elections to the Supreme Soviet of the Kazakh SSR and to local soviets of peoples' deputies. At present overwintering is proceeding significantly better in Kokchetav Oblast than in recent years. But in many enterprises of Semipalatinsk, East Kazakhstan, Taldy-Kurgan and other oblasts work results are summarized on an irregular basis; often livestock farmers do not know of the achievements of their competitors. Here the volume of production and sale to the state of agricultural products has decreased and quality indicators have deteriorated.

At a recent meeting of directors of ministries and departments of the republic's agro-industrial complex, the Central Committee of the Kazakh CP demanded that party, soviet and management organs eliminate shortcomings in the implementation of the overwintering of livestock, strengthen controls and organizational and mass political work on livestock farms and carry out decisive work to fully preserve the public herd, to effectively utilize feed, to increase the productivity of livestock and to unconditionally fulfill annual plans for the procurement of meat, milk and other livestock products by every enterprise, rayon and oblast. All reserves for increasing production must be utilized to accomplish this.

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## IMPROVE UKRAINIAN HOG BREEDING OPERATIONS

Moscow SVINOVODSTVO in Russian No 2, Feb 85 pp 18-19

[Article by A. Shinkevich, Head of the Animal Husbandry Division of the UkSSR Glavzhivprom [Main Administration of the Livestock Breeding Industry]]

[Text] Within the UkSSR Ministry of Agriculture system, there are presently dozens of industrial complexes and specialized operations engaged in production of pork. The production and sale of pork to the state by these farms accounts for 45 percent of the total volume of pork production. In 1983 they produced 17 quintals of pork per female on the average, twice the republic average. They got 19 head per female on the whole. The average daily weight increment of the pigs during fattening was 520 grams.

Sovkhoz-combines achieved even better results: "Uglegorskiy" in Donetsk oblast, the Sovkhoz im. 60th Anniversary of the Great October Socialist Revolution in Khar'kov oblast and "Kalitvanskiy" im. 50th Anniversary of the USSR in Kiev oblast, which sold to the state 13,800-13,300 tons of pork, obtained 22-23 shotes per female, the average daily weight increment was 600-614 grams, and they expended 4.5-4.2 quintals of feed units per centner of weight increase during fattening.

Improvement in breeding and pedigree work explain such high indicators for the large-scale pork production complexes to a significant extent.

The necessary base for raising pedigreed swine has been set up in affiliation with the large-scale industrial complexes. This makes it possible to carry out further work in improving pedigree and solution of the problem of uninterrupted supply of young pedigreed stock to the complexes.

In the system of the UkSSR Glavzhivprom there are presently 13 breeding farms and reproduction units in operation, keeping 7600 females. Every year 46,000 head of pedigreed young stock are raised here, of which 30,000 are turned over to industrial complexes and 4,000 are given to other farms in the republic.

The large white [Russian--krupnaya belaya] is the basic breed, comprising 80 percent of the female headcount. Additionally, there are Poltava and Khar'kov breeds, landras, Wells, the Ukrainian White Steppe pig and crossbred females of different lineage.

Breeding boars are represented by the following breeds: large white, Landras, Wells, Mirgorod, Ukrainian White Steppe and Poltava Meat. In all farm categories, the boars and sows are characterized by adequately high developmental indicators, and, on the basis of these features, belong either to the Elite Class (78 percent and 69 percent, respectively) or Class I (21 percent and 30 percent).

Only purebred breeding using modern selection methods is employed at the pedigreed stock reproduction units. But at the sovkhos-combine "Trubezhskoy" and "Kremenskiy" production of two-strain crossbreeds is organized. Pedigree work is in progress with no less than 5 strains of boars and 5 families of sows.

It must be noted that with liquidation of the breeding trust and transfer of breeding farms and operations to other agencies, their work on production and raising of young breeding stock has fallen off somewhat due to their being burdened with other plans. And it is only because breeding reproduction units, where high-class replacement stock is being raised, have been established that industrial complexes have been fully supplied in recent years with their own livestock population, in addition to the pedigreed boars which are being taken from the republic's breeding farms and facilities.

Hybridization and cross breeding on an industrial scale are effective methods which promote rapid growth in swine productivity and in the intensiveness with which they are used. These breeding methods are utilized on an adequately wide scale at industrial complexes.

Annually they receive about 90 percent of the crossbred and hybrid young animals for fattening. Based on data from a number of complexes, multiple pregnancies increased by 0.3-0.8 shots, bearing of large young [Russian *krupnoplodnost'*] by 90-180 grams and early maturing by 8-10 percent; feed usage improved by 3-5 percent. The following combinations produce the greatest effect under conditions at the industrial complex: large white X Landras; large white X Wells X Landras and large white X Poltava Meat type.

However, the effectiveness of cross breeding is still not being completely exploited. There are significant reserves. To achieve this end, it is necessary to incorporate an accurate system of cross breeding and hybridization at all farms. In connection with this, specialists at the UkSSR Ministry of Agriculture and UkSSR Glavzhivprom, together with scientists of the NIIZh [Scientific Research Institute of Livestock Breeding] of the Lesostep' and Poles'ye regions and the Poltava NIIS [Scientific Research Institute of Agriculture] are working to perfect a unified system of pedigree breeding operations in swine breeding.

Particular attention is being devoted to a system of hybridization and to development of methods to obtain commercial hybrids adapted to produce an average daily weight gain of 700-800 grams, with an average consumption of 3.5-3.7 feed units per 1 kilogram of increase and a lard thickness of 27-28 millimeters under industrial conditions.

This work is already being carried out at the complexes imeni 60th Anniversary of the Great October Socialist Revolution in Khar'kov, "Trubezhskoy" in Kiev and "Rossiya" in Cherkassy oblasts.

In addition to improving meat qualities, the maturation period and feed costs, the selection of animals based on their ability to be exploited for a lengthy time under conditions at the complexes is also anticipated within the breeding program. This work has been set up well at a number of breeding reproduction units. Thus, on the sovkhoz-combine imeni 60th Anniversary of the Soviet Ukraine in Dnepropetrovsk Oblast and the "Kalityanskiy" imeni the 50th Anniversary of the USSR, highly productive herds of the large white breed have been established. On the basis of primary data, the development of the boars and sows in the breeding herd exceed the requirements for Elite class. More than 500 sows have been entered into the State Pedigree Registry. Basically, all of the herd was raised under conditions of the pedigree reproduction units.

The sows have a strong constitution and for practical purposes, instances of their rejection due to weakness of the extremities of ligament rupture are rare. At the same time, multiple pregnancies have increased, the shote birth weight is 1.2-1.5 kilograms. When the shotes are taken from their mothers at 45 days, this made it possible to have 10 and more of them in the nest, with an average live weight of 13-14 kilograms.

Boars which have been tested for heredity are used in the reproduction units. The average daily weight gain of the group being tested was 768 grams, the feed consumption per centner of weight increase was 3.9 feed units and the age at which they reached a weight of 100 kilograms was 184 days.

Along with the high-class herds at the reproduction farms of industrial complexes, farms to breed the Poltava Meat pigs have been established on the sovkhoz imeni Chapayev, Poltava Oblast and at "Zhuravskiy" sovkhoz in Chernigov Oblast; also for breeding the Dyurok on the sovkhoz "Stepnoy" in Zaporozhye Oblast and for the Landras on the sovkhoz imeni 26th CPSU Congress in Nikolayev Oblast. Creating farms to breed the given breeds will permit work to be carried out in depth toward isolating highly productive commercial hybrids and crossbreeds at industrial complexes.

We understand that 2- and 3-strain cross breeding does not always produce a positive heterosis effect since, as a rule, boars which improve the strain only constitute 30 percent of a herd. Therefore, to determine which animals are valuable, it is necessary to evaluate the population, first of all the producer boars, both on the basis of their own productivity and that of their offspring. Employing boars which will improve the herd will permit the productivity of the animals at the industrial complexes to be increased by 10-12 percent in a short time.

To this end, special facilities in which about 200 producers and 600 sows are annually evaluated for offspring quality have been constructed on the large breeding reproduction units.



However, it must be noted that animal evaluation according to the method given above does not satisfy the industrial complexes. The basic herd is intensively exploited here, which results in its rapid replacement, therefore they are not always able to evaluate and employ one animal or another on time. In this context, the question of freezing sperm and its extended storage is critical. The effectiveness of hybridization is dependent to a significant extent on the genetic potential of the initial material. Parental and grand-parental forms should constantly be being perfected qualitatively. The lines used to produce commercial hybrids at present will subsequently be improved or replaced by others which are more highly productive.

The breeding-and-pedigree work which is being carried out at the reproduction units is impossible without properly organized feeding and maintenance of the pigs, which should promote formation of a strong, healthy, normally developed young stock. Replacement animals are being raised on rations consisting of 80-90 percent concentrated feed, based on nutritive value. Because the mixed feeds which are being delivered are at times incomplete, vitamins and other additives are being introduced at each farm. Juicy and coarse green fodders are obligatorily being added to the rations.

All of the replacement stock enjoy active walks.

Much attention is being devoted to the question of accounting at the breeding reproduction units; it is being carried out on full scale based on approved forms.

It must be noted that breeding work at the reproduction farms of the UkSSR Glavzhivprom has achieved definite positive results. The primary question--the regular production of a high-class breeding stock in adequate quantity and its introduction as a replacement for the basic herd of an industrial complex--has been resolved.

In the future, it will be necessary to do work on incorporating a scientifically based system of breeding and organization of pedigree breeding work using cross breeding and hybridization of swine which insure high productive indicators; to complete the work to create the individual farm swine herds of the necessary breeds, those which have been specified by the breeding system; to create new highly productive specialized types and lines of swine on a pure-bred and crossbred base with high combinatory capabilities by working jointly with the scientific research institutes; to solve the question of working out a methodology for more effective evaluation of the swine population, primarily the producer boars, under industrial production conditions and to strengthen and expand the material and technical base of pedigree facilities and sovkhoses.

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PRIVATE PLOT DEVELOPMENT IN KAZAKHSTAN ADVANCED

Alma-Ata PARTIYNAYA ZHIZN' KAZAKHSTANA in Russian No 12, Dec 84 pp 44-51

[Article by A. Rybnikov, Director of the Department of Agriculture and the Food Industry of the Central Committee of the Kazakh CP: "The Enterprise is Private but the Benefits are Collective"]

[Excerpts] As we know, the main producers of agricultural products here are sovkhozes and kolkhozes, which, relying on accumulated experience, are carrying on a persistent struggle to further improve the effectiveness of farming and livestock raising and to intensify public production in every way possible.

At the same time, at the contemporary level an important source for replenishing food resources and for improving the supply of food products to the population are the subsidiary agricultural farms of enterprises, organizations and institutions and the private plots of citizens. The social essence of the private plot consists of the fact that it is an integral part of socialist agriculture because it is tended by workers of public production--kolkhoz farmers and workers and employees who work government-owned land.

At the same time, in its economic and everyday orientation, the private plot is primarily consumerist--every family, as an analysis showed, keeps for its own use 70-90 percent of the products it produces through its own efforts during its spare time and sells the rest at its own discretion. Understandably, the better the opportunities of individual private plots are utilized, the greater the surplus of products in the family and the greater the public benefit.

Managing a private plot, including the upkeep of livestock and poultry, is the constitutional right of the Soviet people. Article 13 of the USSR Constitution states that "the state and kolkhozes cooperate with citizens in managing the private plot. Soviet law protects the private property of citizens and help citizens to develop their private plots."

In his speech at the October 1984 Plenum of the CPSU Central Committee, Comrade K. U. Chernenko said, "After passing well-known resolutions on the development of private plots the size of the cattle herd belonging to the population increased by 1.6 million head; the number of hogs has increased by the same amount. More sheep and poultry are being raised. This is an important addition to our kolkhoz-sovkhoz production."

In this area, a considerable amount has been done by Kazakhstan's workers. The republic's party, soviet and agricultural organs are doing extensive work to develop the population's private plot, to improve the organization of procurement of surplus products and to increase the interest of citizens in raising the output of the private plot. A social climate is being created in which kolkhoz farmers, workers, employees and other citizens understand clearly that by raising livestock and poultry on the private plot and by participating in the cultivation of gardens and orchards, they are rendering a useful service to the state.

The positive results achieved in the development of private plots were noted once again by Comrade D. A. Kunayev, member of the Politburo of the CPSU Central Committee and First Secretary of the Central Committee of the Kazakh CP, at the 15th Plenum of the Central Committee of the Kazakh CP.

At present, over 185,000 hectares of land, including almost 150,000 hectares of arable land, have been allocated for use as private plots of the population. A large proportion of it is occupied by potatoes (65.8 percent) and vegetables (14.8 percent); fruits and berries and other crops occupy the rest of the area. Of the over 2.1 million hectares of irrigated land, 60,400 hectares, or 2.9 percent, are used for private plots.

At the beginning of the current year there were 2,345,000 head of cattle in the private sector (25.8 percent of the number available in all categories of enterprises), including 1.23 million cows as well as 4.309 million sheep and goats, and 520,000 hogs, or 12-18.6 percent of the total herd. Moreover, the private plot maintains a large number of horses, camels and poultry.

Last year the private plots of the population produced over 370,000 tons of meat (slaughter weight), or almost one-third of the volume in the republic. Stable growth in the production of milk, the share of which increased from 41 percent in 1980 to 44.5 percent in 1983, has also been noted. During this period gross production of wool increased from 18.7 to 22 percent, of potatoes--from 55 to 57 percent and of melon crops--from 34.5 to 37.6 percent.

Whereas at the end of the 10th Five-Year Plan the proportion of the private sector in total cost of gross agricultural production in the republic equalled 22.5 percent and was lower than in the country as a whole, last year it increased to 24.4 percent and now Kazakhstan occupies eighth place according to this indicator.

Based on norms for direct expenditures in kolkhozes, today about 420-450 million man-hours, equivalent to about 250,000 average annual workers, are expended in the republic for the maintenance of the private plot.

These positive changes in the development of private plots did not come of themselves. They are the result of certain organizational and political work by party, soviet, trade union and economic organs and of the active participation of working people in increasing the country's feed resources.

Now it is the task of party, soviet and economic organs to encourage this important matter further. Proceeding correctly are those who institute constant party controls over questions related to helping citizens to acquire young livestock and poultry and to cultivate private plots, and to supplying them with haylands and pastures, water for irrigation and seedlings of fruit and vegetable crops.

In many labor collectives special attention is given to young families and new kolkhoz members or sovkhoz workers. They are given state loans and the necessary building materials to initiate a private plot. Thus, for example, in 1983 in Dzhambul Oblast 588,000 rubles were allocated for this purpose; in Alma-Ata--220,000 rubles.

Agricultural and zooveterinary services are being improved constantly by economic organizations. Many sovkhozes and kolkhozes have created the job of specialist on managing the private plots of citizens as well as of collective cultivation of orchards and gardens.

As we know, the central problem in private livestock raising is feed. It is urgent in that the share of agricultural lands available to private plots is much lower than in the public sector, and the proportion of livestock and poultry in private ownership is fairly high and increasing constantly. This is why the private plot needs as much help as possible from kolkhozes, sovkhozes and the government in acquiring feed supplies. In recent years the republic's agricultural enterprises have begun to write industrial-financial plans and carry out the procurement of feed with a consideration of the feed requirements of both public and private livestock. Coarse, succulent and concentrated feeds are sold first and foremost to workers who participate conscientiously in public production and to retired individuals.

Great educational and organizational work on the development of private plots is being done by party committees and soviet and economic organs in Pavlodar Oblast. As a result, the size of the herd and the productivity of livestock in the private sector are increasing; the procurement of products is increasing. Thus, in only 9 months of the current year as compared to last year in the oblast as a whole milk procurement from the population increased by 29 percent, in Zhelezinskiy and Pavlodarskiy rayons--by 33-35 percent, in Irtyshskiy Rayon--by 43 percent and in Kachirskiy Rayon it has doubled.

As the research of scientists at the Kazakh Scientific-Research Institute of Economics and Agricultural Organization shows, most village workers with model private plots are conscientious in their production obligations although, as an analysis shows, a tendency remains to increase income from the private plot per unit of labor expended.

In addition to the private plot of village and city workers, the subsidiary enterprise as well as collective cultivation of orchards and gardens are an important source for obtaining food products. Green plantings now surround practically all cities and workers' settlements in the republic, occupying previously bare land unsuitable for agricultural use. Horticultural cooperatives now unite 385,400 plot owners, and together with family members--

up to 1.5 million persons. In addition, 412,600 families are involved in gardening. Collective orchards have been allocated 28,200 hectares and orchards--34,900 hectares. Together with the production of a significant quantity of products--fruit, vegetables, berries and potatoes--this form of management eliminated many problems in the organization of rest for workers and family members and in familiarizing adolescents with labor.

In recent years a great deal has been done in the republic to improve the organization of the procurement of surplus agricultural products from the population. The network of reception-procurement points has expanded and its material-technical base has become stronger. Within the system of consumers' cooperatives there are 206 rayon procurement buros, 14 procurement-marketing bases and 1,107 points for the procurement of agricultural products. During the period of harvesting fruits and vegetables the number of the latter increase threefold. With the goal of stimulating suppliers of products, last year high-demand products worth 28.8 million rubles were sold through lines of consumers' cooperatives alone as counter trading.

Extensive measures are being implemented to improve trading of private-plot agricultural products in stores of consumers' cooperatives and in kolkhoz markets. At present, practically all settlements have opened stores to sell products on commission. In the republic there are 316 kolkhoz markets for 60,000 sales spots. Many of them have been expanded, renovated and equipped with trade-technological and cooling equipment and have trade service buros. During the first 6 months of the current year alone, 14,000 individual suppliers sold their products through these buros, including 2,900 persons in the city of Alma-Ata. In comparison to the corresponding period last year, the sale of vegetables in kolkhoz markets increased by 15 percent; of fruit and berries--by 22 percent. Commodity turnover increased by 14 percent, comprising about 10 million rubles.

Party, soviet and management organs of Kazakhstan are now taking measures to further develop the private plot. Nevertheless, this great reserve for increasing food resources is not being utilized fully. A significant number of the village population, especially in suburban zones, still does not raise private livestock and is marginally involved in raising potatoes and vegetables, which are so necessary for the daily table. In the republic almost every fifth family living in the village has no livestock, every fourth family--no cattle and every third--no cows. The largest number of such families are found in Chimkent, Dzhambul, Alma-Ata and Kzyl-Orda oblasts.

Some kolkhoz and sovkhos directors often ask why products from the private plot are not included in fulfilling public production plans since both pastures and haylands as well as grain-forage reserves come from public funds. But for several years now a resolution has been in effect, in accordance with which products from private plots sold to the sovkhos or kolkhoz according to contracts are counted towards plan fulfillment. For this reason, we must conclude contracts and adhere to them strictly. In places where this is done the results are obvious--the sovkhos family has money, meat and milk and sovkhoses and kolkhoses achieve an addition to the plan.



The main reason for the interruption in further growth in the number of livestock and poultry on the private plot is the difficulty in supplying the herd with feeds and pastures. Stall feeds for private livestock are usually allocated by sovkhoses and kolkhoses, but only after meeting all the needs of public livestock-raising. But since feed procurement in the republic still does not meet all the needs of the public herd, the level of supplies to private livestock naturally remains inadequate. The volume of feed allocated from state resources in exchange for agricultural products from the private plot is still low. For example, in 1983 only 70,000 tons of mixed feeds were sold through the trade organizations of Kazpotrebsoyuz [Kazakh SSR Union of Consumers' Cooperatives].

The situation involving the availability of pastures is much worse. Management organs are still implementing controls poorly over the condition of these lands and are not carrying out work to radically improve them. In many places near settlements they have been overgrazed due to overloading with livestock and non-systematic use; the grass stand is sparse and the variety composition of vegetation is poor. An especially complex situation is developing in the desert and semi-desert regions, where village residents are experiencing great difficulties with the supply of cows and sheep. It is no accident that the livestock in the private plot here has a low productivity. Milk yield per cow does not exceed 1,750-1,850 kilograms annually; the yield of wool per sheep is 2-2.5 kilograms.

Local party, soviet and agricultural organs have recently begun to take more effective measures to solve these problems. The practice of allocating to the village population land that is not accessible to machine harvesting but that is highly productive, interrows of orchards, mountain slopes, river bottom land, timber-felling areas and so forth is being developed; retired persons, adolescents, temporary unemployed as well as interested workers from agricultural enterprises are being more extensively recruited.

The problem of further saturating individual enterprises with livestock in a quantity that corresponds to normative documents is urgent. A questionnaire survey conducted by the Kazakh Scientific-Research Institute of Economics and Agricultural Organization in Iliyskiy Sovkhoz and in Kolkhoz imeni 40-Letiya Kazakhstana of Alma-Ata Oblast showed that all residents wished to maintain livestock but had serious difficulty in acquiring it. It has been established that about 50 percent of village residents will acquire livestock through the public enterprise, about 30 percent buy it in a kolkhoz market and 15-20 percent--in their own villages.

During the last 10 years in the republic the sale of calves and lambs to the population increased by a factor of 1.6, of piglets--by a factor of 1.4, and of poultry--by a factor of 1.8. Still, in absolute terms this is an insignificant herd which does not cover everyone's need for livestock by far. Thus, in 1983 the population was sold only 16,500 calves whereas 390,000 head were procured from the population. The demand for young livestock by the populations of a number of regions of Semipalatinsk, Turgay and several other oblasts is being fulfilled especially poorly. Specialists have calculated that if the amount of livestock and poultry is increased in the republic's private

plots to the confirmed norm (with a consideration of regional characteristics), the number of cows will increase by 550,000, of hogs--by 1.2 million and of sheep--by 4.6 million head. Only by means of this will it be possible to increase milk production by a factor of 1.5 and to almost triple meat production.

The Central Committee of the Kazakh CP and the republic's council of ministers receive many letters which present cases in which there was a refusal to procure livestock, milk and other products from the private plot. This refers especially to East Kazakhstan, Guryev and several other oblasts. Here there are frequent violations of the travel schedules of procurers to settlements, not all suppliers are reached, often the procured herd is poorly fed and weight losses are tolerated when animals are delivered to the meat combine.

In a number of villages of Aktyubinsk and Uralsk oblasts and especially in distant steppe regions points of milk procurement still have not been created. Consumers' cooperative organizations are doing insufficient work to conclude agreements on livestock contracts and on the procurement of surplus products from the population according to contract prices; they supply enterprises insufficiently with manual and electrical separators. Last year the consumer cooperatives of Dzhezkazgan, Taldy-Kurgan, North Kazakhstan and Karaganda oblasts did not even fulfill by half their plans to procure livestock from the population according to contract prices; of Alma-Ata, Taldy-Kurgan, Dzhezkazgan, Karaganda and Kokchetav oblasts--plans to procure meat products.

Two very important factors that hinder the development of private plots are the extremely low level of mechanization of labor-intensive processes and the absence of special small-capacity technical means and equipment. In labor intensiveness the private plot surpasses public production by a factor of 2-3 and more. In the survey every third village resident stated that he did not raise livestock only because heavy physical labor is required to care for it.

Despite the enormous amount of work that has been done there are many shortcomings in the collective cultivation of orchards and gardens. In the course of the recent mass investigation instances of gross violations of the Model Statute on Horticultural Societies were uncovered. In a number of places orchard plots and the houses erected on them significantly exceed established norms. Hothouses, garages, bath houses and other outside structures not foreseen by the state have been built. Having lost their feeling of modesty, some "dacha owners," including management workers, have used capital material and material in short supply, often acquired at reduced prices, to beautify their orchards. Party committees must make a principled evaluation of all these facts and the guilty parties must be made strictly responsible for wrongdoing.

The development of the private plot is a matter of great state importance. Party, soviet, trade union and economic organs in the republic are obliged to deal with this in a principled manner and consistently; to act strictly according to party and government resolutions and existing law as regards these questions; to more fully utilize reserves for increasing the production of agricultural products with the purpose of more rapidly achieving the goals that were established by the country's Food Program.

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INEFFICIENCIES IN KAZAKH APK OPERATIONS DETAILED

Moscow PRAVDA in Russian 26 Mar 85 p 2

/Article by K. Iskakov, Candidate of Economic Sciences and head of department at the Tselinnyy Branch of the Kazakh Scientific Research Institute of Economics and Agricultural Organization, Tselinograd: "If the Distance Is Great"/

/Text/ I read with interest the letter from N. Pereverzeva entitled "Each In His Own Place," as published in PRAVDA. Nina Vasil'yevna touched upon questions which arouse many agricultural workers. And in our case, located as we are in northern Kazakhstan, many acute problems.

The virgin land is a grain region. Each year, some sovkhoses sell tens of thousands of tons of grain. But there is one surprising fact: only rarely do you encounter a rayon in which it is possible to see an elevator from the roof of another one. Sometimes the grain must be transported dozens and even hundreds of kilometers.

And indeed it must be transported during the very tense harvest period. One must manage the virgin land procurement volumes using whatever resources are available. Use must be made of tens of thousands of machines from cities and other oblasts and republics. Naturally, the plans for delivering freight are disrupted there. Transport vehicles from the farms themselves are made available for transporting the grain. As a result, there are not enough motor vehicles for servicing the combines. Because of this fact alone, the idle time reaches one fourth of the working time and the output of the machines is lowered by one third.

The situation is aggravated by the fact that the farms and procurement enterprises do not operate in harmony with one another. They do not operate on an equal basis. Here is an example. In the case of grain shipments, the sovkhoses and kolkhozes of northern Kazakhstan, owing to a shortage of cleaning machines, ship more than 820,000 tons of impurities to the elevators. They are forced to pay the procurement specialists up to 32 million rubles for the cleaning and drying work. But the waste products are not lost, but rather they are included in forage mixtures at the mixed feed plants. However, the farms do not receive so much as one kop.ck for such raw material. Moreover, this mixed feed is later sold to the kolkhozes and sovkhoses at very respectable prices.

There have been many arguments regarding payments for quality. For example, we analyzed the situation at the Druzhbinskiy grain receiving point in Tselinograd Oblast. During the year, 9,148 tons of wheat were accepted from the farms as standard grain. Following processing (paid for by the sovkhozes), 8,902 tons were classified as being in the strong category. For this the procurement specialists received 85,000 rubles worth of profit. According to present arrangements, both enterprises must divide up the profit equally. I do not wish to make a judgement regarding the validity of such a distribution. However, just as in the past the losers are those who produce the grain. Overall, according to our estimates, the farms of northern Kazakhstan are failing to receive more than 75 million rubles annually for their strong grain.

The principal cause of these and other shortcomings -- unsound division of the single process of production and processing and their organizational-economic separation. Great losses are sustained in animal husbandry as a result of this fact: quite often the milk and meat are processed at great distances from the farms. There is a loss in products and a decline in product quality. Thus, during the 10th Five-Year Plan, the livestock breeders in northern Kazakhstan sustained losses in excess of 37 million rubles owing to the sale of sub-standard milk.

In our opinion, the separation of production and processing is holding back the development of and improvements in the efficiency of the agroindustrial complex. In some areas, a search is underway for more profitable variants. The reverse process -- integration -- can already be clearly traced: the merging of the agricultural branch with the processing branch. Associations of kolkhozes and sovkhozes with plants, for example, are being created in some regions. An attempt is being made to eliminate isolation within a RAPO /rayon agroindustrial association/ framework. The economic mechanism is being worked out.

This is all very good. But even if the system of mutual accounts for the same waste products and grain strength is finally developed, the distances between the fields and elevators will still remain as in the past. Thus the losses will continue. It would seem that the processing ministries are not interested in creating enterprises having optimum dimensions for agriculture. A department is provided with definite resources and naturally strives not to scatter them.

Moreover, it is difficult to control small processing enterprises from the center -- there are so many of them. Yes and given the proximity to the fields and farms, processing under this variant fits in well with production. Thus in such cases it would be best for this single process to be directed by one overall organ.

It is believed that one should start with the integration of control. The organization of an agroindustrial association must be improved at every level (rayon - oblast - republic) and it must be given more rights. Any APO /agroindustrial association/ that is not restricted by a departmental attitude can be more easily controlled; better decisions can be made with regard to what is to be created and where, what is to be built and what equipment is to be provided in the interest of the final result.



Obviously, inter-farm enterprises -- servicing and processing facilities -- should be created in a number of zones. Such a variant would not be effective for us in the virgin land. Here there are very large farms. For example, the Sovkhoz imeni Kozlov in Kustanay Oblast has 106,000 hectares of arable land. In accordance with the measurements for other zones, this constitutes an entire rayon. Hundreds of tractors and combines. The central farmstead of the sovkhos is removed from a similar giant-neighbor by a distance of almost 100 kilometers. It is difficult to imagine how they could be combined with a processing enterprise.

A typical virgin land farm is almost five times larger than an average farm in terms of area and in terms of number of livestock -- twice as large. This determines the need for and possibility of processing field and farm products directly at a site. In other words, agroindustrial enterprises of sovkhoses and kolkhoses are needed in a number of areas. This is associated with a shortage in labor resources. It is created by personnel turnover caused by irregular workloads. Whereas there is a shortage of machine operators during the peak of the harvest season, in the winter the situation is just the opposite -- there is not enough work to keep them busy.

Thus the time would be right for creating agroindustrial enterprises. Experience in creating them is available in the region. For example, there is the Sovkhoz imeni 50-Letiya VLKSM in Northern Kazakhstan Oblast. It was 10 years ago that the first industrial-processing department in the virgin land was organized here: the waste products of grain production are converted into granules and briquettes. The department has at its disposal all of the required means of production -- land, equipment and man-power. Machine operators work here during both the autumn and winter. In the spring, a second shift is organized in the field from among the "surplus" machine operators. The work-day is controlled during the busy harvest period: instead of the usual 10 hours, it is limited to 7-8 hours. And this is viewed as being a prerequisite for retaining youth in the rural areas.

The natural-economic conditions at this sovkhos are worse than those found at neighboring farms. This naturally affects the economic indicators. But the department was created and a considerable improvement was noted in the results. During the 10th Five-Year Plan, each worker produced 6,900 rubles worth of gross output -- 1,000 more rubles worth than the average for the rayon.

A similar processing subunit exists at the Yerkenshilikskiy Sovkhoz in Tselinograd Oblast. Here the granules and briquettes are being enriched with whey. The production technology for grain and milk has been made waste-free. Compared to other farms, this sovkhos also operates under worse conditions. Nevertheless, the indicators are considerably higher than the average indicators for the rayon.

But the advantages of such integration are more readily apparent when the 30 Let Kazakhskoy SSR Kolkhoz in Pavlodar Oblast is used as an example. Here there are six plants: for cleaning the seed for perennial grasses, preparing granulated and mixed feeds, production of sunflower oil (seasonal), processing coarse feeds and their yeasting, processing of milk, a brick plant and a plant for reinforced concrete products. Local materials and field and farm products



are used as the raw materials for these operations. Only cement is imported for use at the ZhBI /reinforced concrete products/ plant.

The organization of processing operations at the farm precludes losses from occurring. This fact is deserving of special mention. Indeed, it is no secret that milk is often returned to the farms during the summer: it becomes sour on the road. The availability of industry attaches municipal features to rural life.

The elimination of seasonal operations has had a noticeable effect on wages. They are one and a half times greater than the average for kolkhozes throughout the country. The technical skills possessed by the workers are also higher.

A visit to the central farmstead of the kolkhoz in the settlement of Konstantinovskiy reveals the following. The streets are asphalted. The homes possess all conveniences and in the spring everything is buried in green verdure. There is a palace of culture, two secondary and two music schools, a domestic services combine, baths, a post office and a telephone-telegraph station. There is also a stadium, sports complex, swimming pool, hippodrome, museum and a zoo. There is everything here that one finds in a city. And there is no shortage of man-power.

Hence, the results. The livestock breeders are obtaining up to 3,500 kilograms of milk per cow, with a fat content of 4.2 percent. The clipping of wool from one sheep exceeds 5 kilograms. The net income per hectare of arable land -- 105 rubles. Each ruble invested in production furnishes 1.4 rubles of profit annually.

The 30 Let Kazakhskoy SSR Kolkhoz is in essence an agroindustrial combine. Its experience reveals that the processing of agricultural products at the sites, on the farms, is a promising undertaking. However, it is being hindered by departmental barriers. Just as in the past, the resources at an APK /agroindustrial combine/ are being distributed among various ministries and the latter are concentrating them and building large enterprises at considerable distances from the land and farms. Thus the kolkhozes and sovkhoses are being by-passed.

It bears mentioning that the USSR Food Program contains an instruction for organizing relatively small processing enterprises at kolkhozes and sovkhoses. This is a historically natural process and one which is economically profitable.

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CSO: 1824/301

COUNCIL CHAIRMAN ON RAPO OPERATIONAL WEAKNESSES, POTENTIAL

Moscow PRAVDA in Russian 22 Jan 85 p 3

[Article by N. Nikolenko, chairman, Nikolayevskiy RAPO [Rayon Agro-industrial Association] Council, Volgograd Oblast: "What is Hindering the RAPO -- The Agroprom: Reserves for Economies"]

[Text] The RAPO has a short biography, only two years, but today it would truly be difficult to imagine the present day countryside without the agro-industrial association. The new organ has succeeded in gaining authority among farmers. I recall that soon after its creation I was at a meeting of the Raysel'khoz-tekhnika. They were talking about changes in management and new relations between partners in the countryside. Someone from the back benches asked loudly: "What is this, now I should repair a tractor as if for myself?"

It was this "as if for myself" that was not comprehensible to some of the partners. Primarily concerned about fulfilling service plans, they showed no interest in final results and didn't think much about strengthening the potentials of the countryside and its intelligent use. The RAPO has been entrusted to call upon the partners to turn to the needs of kolkhozes and sovkhozes.

Has it succeeded in doing this? Much in the rayon has changed for the better. This is the opinion of the majority of farm members. The partners are working in a more coordinated and precise manner. For example, they have organized the reception of milk directly at kolkhozes and sovkhozes. Farm output is now centrally delivered to the butter and cheese factory. At the decision of the association council, the milk trucks have been transferred to the processors. Driver training has been organized. They themselves receive the milk at farms and are responsible for it. Plant specialists help animal raisers to set up equipment for the primary processing of milk and to understand milk quality problems. The conflict between farmers and receivers has disappeared into the past. There has been a marked increase in grade A milk production.

Agro-industrial integration indisputably strengthens the rural economy. However, to put it frankly, has the RAPO succeeded in becoming the master in complete power?

Take the relationship between farmers and their main partner -- Sel'khoztekhnika. We tried to create a unified technical service for the rayon within the framework of the RAPO. Agricultural administration engineers were transferred to the Raysel'khoztekhnika. It was expected that they would first of all watch over farmers' interests. After six months our specialists had to be returned to their old offices. They had become involved in concerns about fulfillment of Sel'khoztekhnika plans, which did not always meet farms' needs. The RAPO was not able to change the main thing -- the system for planning the partners' work.

It is also very difficult to adjust economic relations. As is known, farms should initially pay for 92 percent of the cost of services, while the remainder will be paid according to final results. In practice, this is difficult to do. Machinery is repaired mainly at interrayon enterprises. This rule is not applied to them. Specialized plants and machine shops are working poorly. The farms prefer to fix the machinery themselves. It is not anonymous, there is somebody to answer for it and it is cheaper. So the Raysel'khoztekhnika machine shop remains underutilized. Threatening phone calls come from the oblast: inducing farms to sign contracts. There are also complaints about RAPO. But how can one be induced to do something which is not advantageous.

Now we understood. A good engineering service for the rayon could not be created simply by moving specialists around. Substantial restructuring was needed here. Some practical workers think that it is better to put repair shops under the authority of agricultural organs. Others prefer replacing repair and technical service plans by indicators of machinery readiness. A third group sees the root of the evil in farms not being freely able to acquire spare parts. In my opinion, any of these questions should be solved at the union or republic level -- at the Ministry of Agriculture or Goskomsel'khoztekhnika.

I don't advocate waiting until acute problems are solved "from above". We can also do much and are trying not to stand on the sidelines. We do need help, however.

The RAPO attempted to bring order to Transsel'khoztekhnika, where plans are often "fulfilled" by turning to write-ups. They started to pay drivers only the money they had earned. Some of them were not happy with this and they left the enterprise. Some of the machines, especially gasoline trucks, were left without drivers. There were breakdowns in fuel deliveries to farms. The RAPO Council then decided to transfer the Transsel'khoztekhnika gasoline trucks to the farms.

The vehicle columns were concerned about the ton-kilometer plan and complained to the oblast about the RAPO.

Soon the council decision was abrogated. Exercizing the rights of first deputy chairman of the rayispolkom, I had to quickly look for gasoline trucks at rayon enterprises and organizations and to rescue the grain growers.

Was not the council correct in making the decision about transferring gasoline trucks to the farms? The decree on rayon agro-industrial associations states that within the limits of its authority, the council is an organ of state

administration. If necessary it can redistribute equipment. True, the decree has the clause: upon the owners' agreement. The vehicle column leader did not want to transfer the equipment, so the machines are still sitting inside the fence, while the farms haul gas in their own gasoline trucks, of which there are not enough.

The association council was given the right to redistribute up to 15 percent of allocated material and technical resources between enterprises and organizations. This is justifiable. We are closer to the land and we can see better where to direct resources. However, is it possible to exercise this right? The council did not succeed in showing independence here. This again requires agreement between partners, part of whose resources we are attempting to take.

There are also quite a few difficulties with centralized funds. Again, this is for the same reason: the need to have the approval of superior sectoral organs. Service organizations use all sorts of pretexts to avoid participation in the RAPO "money box". Only 13 of 33 members in our association contribute money to centralized funds. For example, the procurement office, earning profits exclusively from the purchase of agricultural products, refused to contribute its share, referring to the prohibition by the oblast consumers cooperative. Sovkhozes in the Volgogradplodoovoshchkhov [Volgograd Fruit and Vegetable Farm] Production Association initially turned over money, but later got it back on instructions from higher departments.

It is no less difficult to use resources from centralized funds. Money is money, but where does one get construction materials and subcontractors?

At the RAPO Council we have repeatedly posed the problem of developing rural industry. The rayon badly needs a facility for whole milk substitute. It is also necessary to more actively build processing enterprises. Much output lies idle, not reaching consumers. Such enterprises should be directly subordinate to us. They need to be built closer to farms.

The rayon already has some experience in this. We set up the Volga Sovkhoz-Plant. The farm raises vegetables and the enterprise cans them. This would seem to be a desirable combination, however, the sovkhov and the plant are not getting along together. Although they are subordinate to one organization -- Volgograd-plodoovoshchkhov -- they do not have a unified system of planning and economic incentives. Farmers are given plans for vegetable yields and gross harvests, and processors for the production of standard tins. Concerned about their plans, plant workers purchase fruit from southern republics and make jam from it in order to meet gross output plans. After all, jam is more costly than canned vegetables.

There are many contradictions in the sovkhov-plant. The enterprise is located in the rayon center. There are city conveniences here, work in shifts and two days off. On the farm everything is subordinate to the harvest. The time off is in the winter, while during the full swing of harvest work, there are, as a rule, no days off. This gives rise to conflicts in the collective. The

mechanical, formal combination of a sovkhos and a plant turned out to be ineffective. This experiment once again shows that it is more advisable to locate processing enterprises directly at farms. Even if it is a very small plant, it is more economically advantageous than urban giants.

The rayon very much needs its own small meat combine. Livestock are now hauled to the oblast center. When sheep are sheared, the massive herding of animals frequently causes injuries and forced slaughter. Of course, this must be done on the spot. There is no other way to avoid the losses which the farm now experiences because of the distance to the meat combine.

Why don't we build processing enterprises if they are so necessary? We cannot. This is not only because we have a poorly developed construction base. The main reason lies elsewhere. Without agreement from superior organs, the RAPO Council cannot engage in major construction. Although we have the money, we are not authorized to open an itemized list of projects.

I will admit that we nevertheless built the whole milk substitute facility. However, why did we, masters of the land and the means of production, have to do this in such a stealthy, roundabout manner?

A few words about the work of the RAPO apparatus. There is still much paper shuffling. Specialists are often employed in writing inquiries and reports. There are also many difficulties with cadre. For some reason the pay scales of workers in agricultural administration are lower than those of specialists at kolkhozes and sovkhoses. The agro-industrial complex needs well trained specialists. This was again noted in the CPSU Central Committee and USSR Council of Ministers decree on further improvements in the qualifications of management cadre and specialists in the agro-industrial complex. The most experienced, qualified specialists should be in the association working apparatus.

Thus, the agro-industrial association is gathering strength, but it is awaiting help in order to more actively and purposfully solve problems in agricultural intensification.

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HUNGARIAN AGRICULTURE ON INCLINE

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 2, Feb 85 pp 74-81

[Article by Doctor Pala Romanya, member of the Central Committee of the VSRP [Hungarian Socialist Workers' Party] and chairman of the editorial board of GAZDALKODASH: "Agriculture of the VNR [Hungarian National Republic] on the Rise"]

[Text] During the years of socialist building, fraternal countries have accumulated varied positive experience in organizing agricultural and agro-industrial production.

Hungarian agriculture is developing at a rapid pace. During the last 20 years average per capita growth in gross agricultural production surpassed 3 percent. Per capita annual grain production equals 1,300-1,400 kilogram; meat production--160-165 kilograms. According to these indicators the republic occupies one of the leading places in the world.

We are publishing an article by a member of the VSRP Central Committee and chairman of the editorial board of the journal GAZDALKODASH, Doctor Pala Romanya, concerning the development of agriculture in Hungary.

After the Soviet army brought freedom to Hungary, Hungary transformed itself from a backward, underdeveloped agricultural country into a developed industrial-agricultural state. Previously, agriculture supplied over half of national production; now it supplies 21-23 percent. Despite the decreasing proportion, we do not consider agriculture to be secondary. We know well how necessary this branch is to the national economy, what serious problems food shortages can give rise to and how important hard currency profits from the export of agricultural products are to the national economy.

Hungary's natural conditions are favorable for agricultural production--70 percent of its territory (largest proportion in Europe) can be cultivated. The climate is continental. The average annual temperature equals +9.2 degrees Centigrade; average precipitation--500-600 millimeters; and number of hours of sunlight annually--about 2,000. This provides the opportunity to produce many agricultural crops and to carry out productive livestock raising. Our

goal is to produce as many agricultural products as profitable under the conditions existing in Hungary and to export these products instead of importing them.

From this point of view we can discuss several important stages of development of Hungarian agriculture during the last 40 years, which have yielded more excellent, new results than preceding eras for the village worker and in the broader sense--for all of the Soviet people.

#### History of the Latest Epoch

In the history of the Hungarian peasantry and of the country's agriculture as well we may note three important stages: 1945--liberation of the country and investment of the peasants with land; 1958-1962--social restructuring of agriculture and creation of the bases of socialism; beginning with 1968--intensive period of development of Hungarian agriculture and a considerable improvement in the economic mechanism.

##### 1. Liberation--Distribution of Land.

Prior to liberation, Hungary was an underdeveloped agricultural country. Characteristic of society as a whole and of agriculture were backwardness, acute social contradictions, unsuccessful attempts at bourgeois democratic transformations and the domination of capitalistic relations, which alternated with the remnants of feudalism. The country's difficult economic and social situation was made more difficult by the arbitrariness of white terror after the suppression of the Hungarian Soviet Republic in 1919.

Hungary was often called "the country of 3 million paupers." The majority of the poor were among the agricultural population. In Hungary estates with manor houses and church latifundia comprised a large portion of agricultural lands. Landowners with tracts of over 1,000 cadastral khol'ds\*[Further translation unknown] equalled 0.1-0.2 percent. At the same time 35.7 percent of the agricultural population, or 750,000 agricultural families, dragged out a poverty existence, not having any land at all. Of all landowners, 91.8 percent had 0-20 cadastral khol'ds, but they had only 31.9 percent of land area at their disposal.

Under such circumstances and with such land relations the symbol of Hungarian agriculture was the barefoot, ragged peasant plowing with oxen, the poorly equipped peasant household, and the landless farm-laborer or hired worker on an estate.

Revolutionary transformations in land relations began with the division of land in 1945. In the western part of the country guns were still being fired, but on the Hungarian territory emancipated by the Soviet army the distribution of land among working peasants had begun. Land reform was carried out by organs of people's representatives of local authorities. Committees on land

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\*1 cadastral khol'd = 0.58 hectares.

distribution worked on the basis of resolutions on land that were developed in a program of the Hungarian Communist Party.

The degree to which land distribution was important to the Hungarian peasant is confirmed by the fact that the last Fascist tanks only left the country on 4 April 1945, whereas land distribution began before this date.

For many, land distribution became a new achievement of the homeland. This was reflected in the fact that land distribution began in the place where thousands of years ago the first national congress was called. Since that time each year on Constitution Day Hungarians remember this event. The Hungarian people and the peasants will not forget the liberation of Hungary, the acquired land and the sacrifices made by the sons of the Soviet people.

During the period of land reform, the lands of war criminals, large estates with an area of over 1,000 khol'ds and estates belonging to the church and to priests were confiscated. With a total land area of over 200 khol'ds, an area of over 100 khol'ds was subject to distribution and was allocated to landless peasants and to peasants with a small amount of property.

Radical changes have occurred in villages and in the country--large estates were liquidated as niduses of exploitation and 670,000 new owners received the land. Several state enterprises and experimental stations are all that are left from large estates. Historical and social bases for development along a new path were laid in this way. War did not spare production funds either, but the new landowners--peasants--replaced them partially or in full over a period of a few years.

The workers' mood that seized the masses after land reform was deflated by the economic policies of the early 1950's, when the one-sided development of heavy industry became the focus of attention, with the burden being borne--as we can see clearly at the present time--by agriculture; there was a drop in the standard of living. As a result of mandatory deliveries, high taxes and the price system that was disadvantageous to agriculture, tens of thousands of farmers were forced to move into other branches of the national economy. Great losses were also incurred by gross violations of Leninist principles of cooperation. All of this hindered the development of the cooperative movement.

Thus, during the first half of the 1950's there was a shortage of basic food products, production dropped to a pre-war level and the political atmosphere deteriorated.

## 2. Transition to a New Political Base.

In 1957, having eliminated the intrigues of counterrevolution, Hungarian society began to stand on its own two feet. The Hungarian Socialist Workers' Party returned once again to its Leninist foundations and announced a new agricultural policy based on the socialist transformation of agriculture.

The second stage in the fate of the Hungarian peasants included the years 1958-1962, when the development of a cooperative movement and the

implementation of the socialist transformation of the village resulted in the development of socialist production relations in Hungary's agriculture. It was confirmed that agriculture, organized on the basis of small production, could not march in step with nationalized (1948-1949) large socialist industry, which was being modernized to a greater and greater degree.

The union of the working class and the peasantry is the backbone of socialism and its development. A strengthening of this union and a higher technical level, achieved on the basis of socialist production relations, professional training and greater demandingness concerning the level of production and standard of living also contributed to the transformation of agriculture. In December 1958 the VSRP Central Committee noted that simultaneously with transformation it is essential to maintain the level of agricultural production and to increase it if possible.

In accordance with new policies, mandatory deliveries were eliminated and a new price system was introduced, on the basis of which it became advantageous to cultivate the soil, to raise agricultural crops and to maintain animals. Reforms in the area of social policy were carried out, and so forth.

The Soviet Union served as a practical example for the restructuring of Hungarian agriculture. Between 1959 and 1962 the socialist transformation of the village was carried out with complete success on the basis of strict adherence to Leninist norms--a systematic approach, voluntary submission and provision of state subsidies. Only 3 percent of land remained as the property of individuals.

The 8th VSRP Congress in 1962 proclaimed the building of a foundation for socialism. This became possible only after socialist ownership of land and the basic means of production was established and after the creation of a socialist association of peasants working together and banded into cooperatives.

Naturally, if in some villages 500-1,000 managers were creating cooperative associations, only the framework of the cooperative was being developed. It was still necessary to learn about the public management of the enterprise. In order to do this, in addition to Hungary's own efforts, it was necessary to recruit significant help from the outside. The state helped cooperatives with machines, seed and credit and also sent trained specialists. The so-called "patronage" system, under which industrial enterprises and workers helped new public enterprises, became widespread. State agricultural enterprises served as an example for newly-created cooperatives in the area of labor productivity, organization and production.

Hungarian agriculture received considerable aid from the Soviet Union. Peasants became acquainted with MTZ and Belarus' tractors, SK-3 combines and other agricultural equipment procured in the USSR. Our production of grain increased systematically thanks to the introduction of the excellent Soviet wheat, Bezostaya, which was developed by Academician P. P. Luk'yanenko. Hungarian agricultural specialists who study in the Soviet Union return to the homeland equipped with great knowledge and experience gathered in large Soviet enterprises.

Under the influence of the aforementioned and other factors large agricultural enterprises became stronger. Their territorial size and production capabilities increased as a result of organized union and association. By the second half of the 1960's they had become so much stronger in organizational and economic terms that they were ready for independent management and for the introduction of a new system of the management mechanism.

### 3. A New System of the Management Mechanism--Period of Intensive Agricultural Development

The introduction of a new management mechanism in agricultural production meant a great step forward--significant changes occurred in the work of cooperative enterprises, in management methods, in economic conditions and in financial and price relations.

During the last decade and a half it has been confirmed that in the growth of production, improvement of product quality and successful management a large role was played by the system of interest that was developed. The implementation of management with the aid of economic factors and with the use of cost methods coordinate well with the advantage of planned management of enterprises.

Within the branch of agriculture, strict, well thought out plans are being developed on the level of the enterprise and the cooperative. These plans are prescribed by law and create the bases for financing and for the conditions to grant bonuses. Nevertheless, plan indicators are determined by socialist economic organizations themselves on the basis of a knowledge of need. They take their own capabilities and conditions established by contracts or economic regulations into account.

This form of management can be utilized only by achieving the independence of enterprises. Production cooperatives and state farms were capable of utilizing and are utilizing this opportunity today. Cooperative law and the organizational system of state farms secure independent management, and organizational and economic regulations provide the financial framework for independent function and material interests, which is closely related to effective independent management.

At the present time, 129 state farms and 1,300 cooperatives are carrying out economic activities independently, as stipulated in the rights of the socialist state as owner and by its control and inspection functions.

Coordinated and unified use of the system of prices, credit and bonuses, taxation and the regulation of wages and salaries ensures that enterprises produce the products and the quantity that is needed above all by the national economy, the population and procurement and processing organizations. The practices of previous years confirm that the use of regulating and management methods is capable of bringing out creative energy, initiative, risktaking in the positive sense and enterprise.

In Hungary agriculture was the branch of the national economy which systematically turned new principles of management into daily practice. A high



level of interest and organization was achieved. On the soil of the systematic agrarian policies of the VSRP work was boldly begun to utilize the possibilities of the small enterprise (with the development of large socialist agricultural enterprises as a priority). The small enterprise was supported by means of integration with large enterprises and of forming supplementary and subsidiary industrial enterprises within agricultural production cooperatives and state farms. Agricultural enterprises began to independently produce those means and equipment which were not assimilated by industrial enterprises.

The experience of the private plot was evaluated and analyzed by our society (we include the urban population here as well) and it was finally appraised in positive terms. The party always helped whenever it was necessary to clarify views on this important question. We remember with gratitude that the results of Hungarian agriculture and the role of the cooperative movement and the private plot were discussed at the 26th CPSU Congress.

#### Growth By Means of the Intensive Method

The growth pace of Hungarian agriculture in the 1970's outstripped average annual growth in agricultural production in the world and in Europe (see Table 1).

Table 1			
Growth Pace of Production in Agriculture and in the Food Industry in Hungary			
	Average annual growth, percent		
	1960-1970	1971-1980	1960-1980
Agriculture	2.5	3.1	2.7
Food industry	5.7	4.5	5.4

Although Hungarian agriculture produces average indicators for cost of gross production per unit area, according to the level of per capita production the branch can be included among the leaders.

According to data on the results of international comparable studies, from among 12 European countries the highest growth pace in agricultural production was achieved by Hungary. It is a self-sufficient country as concerns the most important food products--in addition to the 10.7 million people living in Hungary, the country can supply another 4 million persons with food.

We can see the per capita consumption patterns in Hungary for the most important types of food products in the following table (see Table 2).

It is important to note that in addition to the improving consumption of food products there is still a high consumption of fat and that the consumption of vegetables, fruit and milk is still below desirable levels.

Table 2  
Average Per Capita Annual Consumption of the Most Important  
Food Products, kilograms

	1934-1938 (annual average)	1950	1970	1980
Meat	32.2	34.2	60.4	73.8
Fats	17.0	18.7	27.7	30.5
Milk, milk products	101.9	111.9	109.6	166.1
Eggs	5.2	4.7	13.7	17.7
Vegetables	50.0	75.3	72.8	79.6
Fruits	45.0	39.6	72.5	74.9
Flour	144.7	142.2	124.1	111.7
Potatoes	130.0	108.7	75.1	61.2
Sugar	10.5	16.3	33.5	37.9

Hungarian agricultural production is oriented toward export. Excess products in a quantity that surpasses the native assortment is earmarked for the foreign market.

The population of Hungary comprises only 0.002 percent of the world's population, and its land area comprises an even smaller percent of the earth's dry land. For this reason it must be noted that Hungarian exports equal 2.5 percent of world meat exports, 5 percent of exports of live animals and 6 percent of apple exports. According to statistical data, exports of poultry from Hungary are second in Europe; of goose liver--first, and of feathers--second in the world. We consider our food trade with CEMA [Council of Mutual Economic Aid] member nations and above all with the Soviet Union especially important.

Since 1978, one of the important special-purpose directives of economic policy has been the preservation of the country's solvency and the improvement of economic balance. This was confirmed by the 12th VSRP Congress in 1980. The fulfillment of this special-purpose directive is also facilitated by agriculture--while agricultural products make up one quarter of Hungarian exports, 7 percent of all imports are comprised of these.

The development of the economy and of foreign economic ties has made it possible to have average productivity and production output increase consistently (see Table 3).

However, the production level of coarse and succulent feeds, wool and several other types of products is still inadequate.

It should be said that some branches have approached the best international indicators. First of all, it is essential to note grain and meat production--1,450 kilograms of grain are produced per capita. The country's livestock raising branch is also fully supplied with grains. In many branches production results have increased by a factor of 2-3 during the last 20 years.

Table 3  
Average Annual Productivity of the Most Important  
Agricultural Crops, tons/hectare

	1931- 1940	1951- 1960	1961- 1970	1971- 1980	1976- 1980	1981	1982
Wheat	1.37	1.48	2.15	3.69	4.06	4.00	4.39
Barley	1.36	1.71	2.00	3.06	3.25	3.14	3.30
Corn	1.88	2.19	2.91	4.51	4.85	5.86	6.85
Sugar beets	20.37	19.94	38.58	33.32	33.64	38.75	42.51
Sunflowers	--	--	--	1.42	1.61	2.07	1.95
Alfalfa	4.05	3.54	3.63	5.04	5.29	5.21	5.41
Potatoes	6.87	9.65	9.18	12.95	14.16	18.20	17.52

It can be said that 15 years ago the workers of the Hungarian village were able to fulfill the main requirement--to have agriculture supply the country with grains and livestock raising--with feeds. Livestock production output in the period 1950-1982 increased threefold. A significant positive result of Hungarian agriculture was a growth in production by means of increasing labor productivity. The number of active workers in the period 1960-1980 decreased by half. Thus, gross production per worker increased 6-7 percent annually.

Deserving of attention is the fact that a tendency observed until recently has changed--previously, able-bodied persons left the village, whereas now many of them remain to work in cooperatives and on state farms. One of the main reasons for this is the fact that industrial enterprises are located close to villages and that the directors of agricultural production cooperatives provide for their workers by means of orders from these industrial enterprises.

Living conditions in the Hungarian village are very important. Organized on the basis of large socialist enterprises, they have changed radically. We are referring not only to the fact that the income of agricultural workers has reached the level of industrial workers but also to the fact that the lifestyle of the peasantry has been altered. In many villages people have all the comforts of the city. They make use of public consumer funds and services which meet the level of city standards.

At the present time agriculture has developed an attraction, especially in those oblasts and branches where large technology and modern technical resources predominate. Agriculture provides good living conditions for its workers.

In addition to the income received from public enterprise, supplementary income is provided by the economically-stimulated private plot. Such income can be obtained by means of considerable supplementary labor and with an initial risk. The individual who works more in large enterprises as well as on the private plot should receive more. All of this contributed to the fact that a healthy division of labor was created between large enterprises and private plots. At the present time one-third of agricultural products are produced by private plots which in their operation depend on large socialist enterprises.

Our adversaries often take advantage of the fact that small producers achieve a mass production on a significantly smaller piece of land. In doing so they hope to prove the advantage of the small enterprise over the large socialist enterprise. These confirmations can make the uninformed go astray. However, we cannot forget that Hungarian private plots were created with the support of large socialist enterprises, and that without production cooperatives and state farms they would not be in existence today. Production cooperatives carry out machine operations on private plots and supply the necessary feeds for livestock. In 3,000 Hungarian villages there are 5,000 shops that sell feed. Large socialist enterprises procure and then process or sell the products of small enterprises.

The efficient division of labor means that everyone must do whatever is most appropriate to the conditions he finds himself in--the large enterprise carries out machine operations, helps organize production and renders production services; and private plots carry out processes that require a great deal of manual labor. All of this is done with the corresponding responsibility and with a consideration of regional characteristics.

It is essential to say that with extensive transformation of the branch we were still able to preserve the environment, the fauna and the flora. With the invasion of chemicals and mechanical means this was not an easy thing to accomplish.

#### A Well-Founded Agricultural Policy--A Dependable Support

Justifiably, a question arises concerning the bearer and source of the great achievements of Hungarian agriculture. The answer is unequivocal. The source of success and the key factor in the continued development of Hungarian agriculture is the consistent agricultural and cooperative policy of the Hungarian Socialist Workers' Party.

The foundation of this policy signified the recognition in 1957 of the fact that the development of socialist agriculture on the basis of small enterprises would be impossible. Only a complete socialist transformation of the branch can achieve a further forward movement. The VSRP made sure that Leninist cooperative norms were adhered to during these transformations. It is important to note that at the same time that agriculture was being reorganized plans were being made to preserve the level of production.

Even after the carrying out of changes the party helps to strengthen production cooperatives and state enterprises (subsidies for capital investments, credit, training of specialists and so forth).

In the formation of the results of Hungarian agriculture a role was played by a system of management that was put into operation and that was also controlled by the party. The management mechanism created conditions and interest by means of self-management and independence of the enterprise, making various capital investments efficient. The level of production increased, quality parameters improved and the results of management by enterprises and of cooperation improved also.

During the 1970's the Hungarian national economy, including agriculture, took a big step forward. During this period there were radical changes in the production funds of agriculture. At this time there was extensive building of specialized livestock-raising complexes, all technology was incorporated into large machine systems; the plant protection service received new and effective means; and source production material was almost fully renewed in plant growing and livestock breeding. All of this was accompanied by positive phenomena on the foreign and domestic markets.

During the last 10-15 years we have the development of the first industrial-production systems (Babolna, Baya, Nadudvar, Seksard and so forth).

As noted at the 11th and 12th VSRP congresses, production systems contributed to a significant degree to the continued successful development of Hungarian agriculture and to an improvement in its production level. Experiments were conducted within these systems; these systems spread new techniques and methods for managing the enterprise. Today 21 industrial-production plant growing systems integrate over half of the country's arable land--2.5 million hectares. High results in grain production were achieved as a result of the experience and elaborations of industrial-production systems. The acceptance of the systems is characterized by the fact that their services are utilized in many countries, as for example the USSR (Moldavia), Bulgaria, Czechoslovakia and Mexico.

Our agricultural and food-industry enterprises are carrying out experiments with new integrated forms--on 1 January 1977 a new form was created and is still considered the highest integrated form--the unification of several agro-industrial associations.

The 15 March 1978 meeting of the VSRP Central Committee summarized the achievements of Hungarian agriculture and the food industry. In the decision it was determined that agricultural and cooperative party policies contributed successfully to the development of production conditions and to the interests of the working class, cooperating peasants and all of our working people. Reflected in agricultural results were the creative use of Leninist cooperative principles, the utilization of domestic lessons and the experience of socialist countries, the actuation of principles of voluntarism, gradualness and democracy, a systematic struggle against the right and left wings, a consideration of the work conditions of agricultural workers and a multi-faceted political and material support of the working class and of the entire state.

#### New Tasks, New Risks

Naturally, problems do exist in the development of agricultural production in Hungary. One of the most difficult is a differentiation among enterprises that is significantly greater than that which can be justified by differences in production conditions. We feel it is cause for alarm when many enterprises work with a poor return. Neighboring enterprises sometimes have a difference of 100 percent in production output and the level of management or of financial results. In most cases these differences are not justified by production conditions. A good enterprise's land is not better to the degree to which its



work results are better, and vice versa. Nevertheless, enterprises which achieved results that were below the average--the so-called enterprises with unfavorable natural conditions--received resources from a special development fund, tax exemptions and price supplements.

At the present time the Hungarian price system ties together average profits with average production conditions. Those who manage their enterprise under conditions that are worse or much worse than the average usually produce a loss. This kind of situation cannot be considered normal. This is why we feel it is important to make a special effort to examine the question of subsidies to enterprises that operate under unfavorable natural conditions (sandy soils, mountainous region).

The second big problem of Hungarian agriculture is the fact that it is comparatively expensive. The standard use of materials and energy is higher than justified in many cases. Expenditures for the purchase of industrial resources and materials are growing. Livestock raising provides a clear example of this. Although in per capita production our agricultural enterprises are among the first in Europe, this is not true for the use of feeds.

The use indicators for meadows and pastures and indicators on conserving fertile soil, our national treasure, are very low. Much better is to be desired.

The third problem area is the industrial background for agriculture and the most dependable distribution of agricultural production and processing. The domestic machine building industry satisfies the needs of agricultural enterprises by only 40 percent. Equipment is often delivered late and the supply of spare parts is also sometimes unsatisfactory. Packing materials are an important condition for good storage and export, but in this area problems also exist.

Hungarian agriculture, just like the agricultural sectors of other countries, must continue to eliminate difficulties as they arise. On the one hand, agricultural production funds are tapering off; on the other hand, they are becoming more expensive and more difficult to acquire. In the use of chemicals we must also count on serious limitations.

Because of a lack of natural mineral resources here, land is even more valuable as a Hungarian national treasure. Still, we do not care sufficiently for our land and we do not economize on it or use it efficiently. Unfortunately, during the last 20 years the area in agricultural crops decreased by 17 percent, at an appalling rate, we might say. In addition to the mandatory forestation there were instances of the squandering of land. It is essential to carry out management with greater circumspection to make sure that fertile land yields a full return. Naturally, the development of cities, industry and the infrastructure requires land, but all of this should be implemented with a lesser outlay of land.

In addition to the decrease in fertile land there will be a drop in the agricultural population, especially for the long-term future, although the fact

that during the last 4-5 years the population has returned to the village (not in large numbers, however) appears to contradict this. This means that a drop in production forces will be evident along these lines too.

We must also consider the fact that some agricultural expenditures are becoming more and more costly. Technical development, science, research and implementation are becoming more and more expensive. The capital-output ratio of agriculture is increasing. All of this requires more thorough economic thought, analysis and the effective balancing of growing expenditures on the part of agricultural specialists.

It is important to take cognizance of the fact that fairly stiff competition is developing in the domestic and foreign markets. We can compete successfully when our products are of good quality, are attractively packaged and have a rich content.

The directions and tasks of the intensive period were indicated at a meeting of the Central Committee of the Hungarian Socialist Workers' Party on 15 March 1978. The 13th party congress, planned for 1985, will make the necessary analysis of the path that has been travelled and will indicate the new orientation. There is no doubt that the workers of agricultural enterprises and scientists will do everything possible to fulfill their successive tasks.

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# INCREASE FINANCIAL CONTROL OVER AGRICULTURAL ENTERPRISES

Moscow FINANSY SSSR in Russian No 3, Mar 85 pp 3-5

[Article by I. K. Vyskrebentsev, deputy chief of the Finance Administration for the RSFSR Ministry of Finance: "To Increase the Role of Financial Organizations in the Realization of the Food Program"]

[Text] The May (1982) CC CPSU Plenum approved for the period up to 1990 a development program designed to increase agricultural production and food products derived from its processing based on the principles of unified planning, proportional and balanced development of all branches of the agro-industrial complex; on increasing the physical and technical base; on improving ties between branches; on clear-cut interaction and strengthening overall effectiveness. To successfully accomplish this, the necessary physical and technical and financial guarantees have been specified.

In raising purchase prices and surcharges to them for agricultural products sold to the state by unprofitable and low-profit farms in the republic, 12.6 billion rubles have been allocated, of which 7 billion are for establishing surcharges to purchase prices. The new purchase prices that went into effect 1 January 1983 are differentiated by zone: for grain crops, 19 zones; milk, 15; cattle, 12; pigs, 16; sheep and goats, 8; potatoes and sunflowers, 5; and sugar beets, 5 zones.

In differentiating purchase prices by zones, rayons and farms of autonomous republics, krays and oblasts, attention was given to a complex evaluation of the farms' production conditions as well as to establishing surcharges to purchase prices for agricultural products sold to the state by low-profit and unprofitable kolkhozes and sovkhozes. More than 90 percent of the grants, allocated to establish surcharges, were aimed at eliminating unprofitability and raising profits in the basic types of livestock breeding (milk, cattle, pigs, sheep, wool), with 10 percent for plant growing. In the distribution of surcharge funds special regional peculiarities of the various oblasts were taken into account. For example, all autonomous republics and oblasts in the Non-Black Earth Zone of the RSFSR had an allocation of 139 billion rubles for potato surcharges (70 percent of the overall potato surcharge amount); oblasts of the Central Black Earth Region received 62 billion rubles (65 percent) for sugar beets; while autonomous republics, krays and oblasts in the North Caucasus and Lower Volga were given 51 billion rubles, or 45 percent of the overall surcharge amount for open field vegetables.

Investigations at kolkhozes, sovkhoses and procurement organizations indicated that the new purchase prices were not always properly applied and that the surcharges set up for agricultural products sold to the state by low-profit and unprofitable kolkhozes and sovkhoses were being paid at rates that did not conform to those that had been approved. Serious kolkhoz and sovkhos miscounts, delays in surcharge payments to farms were uncovered in the Buryatskaya and Kalmytskaya autonomous republics, in Khabarovskiy and Primorskiy krais, and in Volgogradskaya, Magadanskaya and Sverlovskaya oblasts. All violations were examined by the corresponding local organs and measures were taken to eliminate them.

In accordance with the decisions of the May (1982) CC CPSU Plenum, much work was done, with the participation of local soviet, agricultural, financial and banking organizations, to set up a list of unprofitable and low-profit kolkhozes where, for the first time, financial procedures were introduced with funds allocated from the state budget for construction of internal farm roads, houses, and social and cultural facilities. For these purposes, the financial and economic conditions at 12,000 kolkhozes were examined, from which 10,900 were included on lists for budgetary financing.

In 1983 the RSFSR Ministry of Agriculture, the RSFSR Ministry of Finance and the Russian Republic Office of the USSR State Bank established systematic control over the proper use of budget grants by weak kolkhozes. Joint meetings and seminars were conducted with oblast, kray and autonomous republic specialists from agricultural, financial and banking organs who, in turn, organized instructive meetings and seminars with specialists and managers of the kolkhozes and corresponding regional organs to study the new financial procedures.

However, investigations carried out at the end of 1983 showed that, in places, necessary measures were not always taken for purposeful and complete utilization of budget grants for planned kolkhoz expenses. The organizational work to strengthen the economically lagging kolkhozes in the Dagestanskaya ASSR is extremely unsatisfactory. In 1983 6.5 billion rubles of budget grants were planned for these farms. On many kolkhozes in the autonomous republic there was failure in determining specific construction projects; approved planning estimates lagged and estimated expenses to maintain children's and other institutions having cultural, everyday and communal significance were poorly supplied with physical and technical resources and production capacities. As a result, only 3.6 billion rubles, or 56.4 percent of the funds budgeted to the republic, were used by 1 January 1984. Kolkhozes in Smolenskaya and Kalininskaya oblasts failed to use 3.3 million rubles; Tambovskaya, 3.1 million; and Kaluzhskaya and Volgogradskaya oblasts, 2.5 million rubles. On the "Zavet Lenina" kolkhoz in Iglinskiy Rayon of the Bashkirskaya ASSR 122,000 rubles that had been allocated for housing construction was not used due to a lack of planning estimates, while on the "Syun'" Kolkhoz imeni Kalinin and the Kolkhoz imeni Engels in Sharanskiy Rayon funds, set aside for the construction of internal farm roads, were not used for this very reason. On various farms in Karaidel'skiy Rayon of the Bashkirskaya ASSR construction was done that deviated from the plans and resulted in significant overpayments to the construction workers.

Various financial organizations have not established suitable control over the accuracy and timeliness needed in estimating expenses and their corresponding computations for maintaining social and cultural institutions, conducting large-scale cultural work and other measures which are being financed from the budget. For example, in the Novosibirskaya Oblast not one of the 12 kolkhozes of the Kuybyshevskiy Rayon had drawn up nor could they present specific estimates and calculations at the time they were investigated. At the same time, 213,000 rubles from budget grants were given to the kolkhozes for this purpose. This included 134,000 rubles for maintenance of pre-school institutions, while the Kolkhoz "Zarya" in Toguchinskiy Rayon in the same oblast received 268,000 rubles.

In a number of autonomous republics and oblasts there were instances in which budgeted funds allocated to the farms to maintain cultural and educational and pre-school institutions were being financed from the budget of rural councils. For example, the farms of nine investigated rayons in the Bashkirskaya ASSR were allocated 178,000 rubles for these aims. Similar violations were revealed on the kolkhozes in Belgorodskaya, Novosibirskaya and Kalininskaya oblasts. Several kolkhozes in Rostovskaya, Yaroslavskaya, Kalininskaya and Novosibirskaya oblasts, and the Checheno-Ingushskaya and Bashkirskaya autonomous republics used the budget not for the intended purpose but for building production facilities, schools, stores and dining halls; for land reclamation; for purchase of machinery; conducting celebrations; offering physical assistance and obtaining tourist passes; paying income tax; and paying fees to voluntary societies. On the demand of the financial organizations, funds not used for the intended purpose were restored in a majority of the cases, and the guilty officials were held administratively responsible.

The major aid given in 1983 to unprofitable and low-profit farms significantly influenced the strengthening of their economic and physical condition. As a result, there was a sharp decline in the number of unprofitable kolkhozes (from 8,588 in 1982 to 1,762 in 1983, or 4.9 times). In 1982 unprofitable and low-profit farms suffered losses of 2.874 billion rubles, while the next year they enjoyed a clear profit of 1.97 billion rubles.

On the economically weak kolkhozes a large volume of social and cultural construction has been carried out. In 1983 put into use were 3.984 million cubic meters of housing, room for 34,800 in pre-school institutions, clubs with room for 46,500 which exceeds 1982 correspondingly by 14, 26 and 41 percent. In addition, internal farm roads extending 4,186 kilometers were built.

At the same time we must acknowledge that the results from the economic and control work at a number of financial organizations is still unsatisfactory. Several farms repeat the same violations, even those that had earlier been investigated and verified. This affirms weak preliminary and day-to-day control, insufficient attention to detected violations and deficiencies as well as to the reasons for their origin.

Therefore, the prime tasks of financial organizations are the perfecting of economic and control work for agriculture; guaranteeing effective financial



and credit influence to provide for more efficient use of production funds, physical, labor and financial resources; increasing the productivity of labor and the quality of work; eliminating waste and non-productive expenses; and lowering the net cost of products in the branches of the agro-industrial complex.

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MESYATS, SCIENTISTS ADDRESS VASKHNIL CONFERENCE

Moscow SEL'SKAYA ZHIZN' in Russian 29 Mar 85 p 2

[Article by I. Gorlanov, candidate of economic sciences: "From Search to Widespread Practice -- Comments on the Annual General Conference of VASKhNIL Scientists"]

[Text] In discussing the work of VASKhNIL institutions in 1984 and agricultural science's tasks in light of the October (1984) and March (1985) CPSU Central Committee Plena, participants at the conference were more critical than at previous sessions in evaluating research results. They talked of the need to substantially restructure the style and methods of scientific collectives' work, taking party demands into account and concentrating efforts and resources on the largest and most urgent problems, their comprehensive solution and most rapid practical introduction. Scientists-agronomists fervently approved the decisions of the CPSU Central Committee's extraordinary Plenum and expressed their unanimous aspiration to unwaveringly implement them.

The report of V. K. Mesyats, USSR Minister of Agriculture, "On Tasks for Agricultural Science in Light of the October (1984) Plenum", the summary report of the VASKhNIL Presidium, given by Academician V. I. Nazarenko, its chief scientific secretary, and speeches by scientists all noted that the implementation of the party's economic, social and organizational measures will have perceptible results.

Scientists have made definite contributions. They have done quite a bit to solve problems in the intensification of plant and animal production and other sectors, in the improvement of land, equipment and labor resource use. As far as land reclamation is concerned, the most substantial scientific achievements were those involving the development of modern, more technically sophisticated systems for irrigation and drainage, increases in the mechanization of production processes and in the use of land and water resource use. Scientists' work was the basis for the construction of very large irrigation systems in the Volga and North Caucasus regions, in the southern Ural and in the Central Asian regions. drainage systems in the forest districts of the Ukraine and Belorussia, the Baltic Republics, the Nonchernozem Zone of the RSFSR and oblasts in Siberia and the Far East.

At the same time it was noted that the construction, and especially the operation of reclamation systems have many shortcomings and oversights. In many

cases there are low returns on costs. At a number of farms, rayons and oblasts the yields from reclaimed land are practically the same as from unimproved areas. The effect from the use of reclaimed land is especially low in Novogorod, Pskov, Ivaovo, Kostroma, Kalinin and other oblasts in the Nonchernozem Zone. There are also many shortcomings in the use of irrigated land in Uzbekistan and other Central Asian republics. Almost one-fifth of the farms there have cotton yields less than 20 quintals per hectare.

Much also depends upon how zonal cropping systems are developed and how rapidly they are mastered. Reviews have shown that these systems do not always give the necessary consideration to operational specifics for reclaimed land. As a result, their returns are low. In this regard there is full justification for the criticism addressed to a number of scientific institutions. For example, the Northern NII [Scientific Research Institute] for Hydroengineering and Reclamation, the Belorussian NII for Reclamation and Water Resources and a number of other institutions did not assure the essential comprehensiveness in their work on reclamation construction. The All-Russian NII for the Agricultural Use of Reclaimed Land has been in existence for eight years, but it has still not had an influence upon increasing the yields from improved land even in Kalinin Oblast, where it is located. Farming efficiency on drained land in a number of rayons in this zone is also falling because of the insufficient pace and low quality of acidic soil liming operations and the poor use of organic fertilizers.

Cropping systems in a number of rice growing regions were also not sufficiently well based. The transition to what is practically monoculture has caused heavy weed infestation, to secondary salinization and to the spread of diseases. This has a negative effect upon increases in this valuable crop's yield and gross harvest. The All-Union NII for Rice has not shown the necessary persistence in implementing its own work to eliminate these negative phenomena. All this has resulted in very tangible losses.

At the same time, there are quite a number of scientific institutions which thoughtfully and responsibly solve difficult tasks. In particular, good things were said about the collective at the Ukrainian NII for Irrigated Agriculture. Comprehensively working on problems in the use of irrigated land, its scientists have been able to demonstrate the great potentials of watered fields. The programmed yields have been obtained for all crops in Kakhovsky Rayon, Kherson Oblast, where the institute is introducing its work. Last year the average yield from 50,000 hectares of grain crops was 55 quintals per hectare, including 62 for corn, and 18 for soybeans. Of course, the experiences of better collectives should more rapidly become the property of all.

Science's tasks in agriculture have now become somewhat more difficult, touching upon problems which have not previously been studied, for example, the task of obtaining programmed yields. Its solution requires complex calculations, the appropriate software and a solid material-technical base. The real possibilities for this have now been created. Scientists consider it a practical task to program yields, above all from reclaimed land. As VASKhNIL Academician N. F. Bondarenko reported, in 1984, programmed yields were a basis for growing various crops on a total area of about 5 million hectares, including more than 3 million irrigated hectares. In the immediate years ahead this method should become a norm for modern crop production.

Higher levels of knowledge and better habits are now obviously required of farmers. It is therefore important to organize good training for farm managers, specialists and machinery operators so that they can obtain programmed yields.

It was mentioned at the conference that solving problems in land reclamation and use requires discretion, a considerate attitude towards the environment and the ability to live not only for today, but to look to the future. We have several examples where the construction of irrigation or drainage systems markedly improved the environment. However, there are also negative instances: secondary salinization and even waterlogging of land under irrigation, the excessive draining of areas and the degradation of floodplains of rivers, especially small ones, during drainage.

Workers in agriculture and other APK sectors are now expecting more from agriculture than it has given them in the past. It is essential to make a large step forward towards converting the production of grain, potatoes, produce, sugar beets, feeds and animal products, as well as the processing sectors, to intensive technology using a system of machines. As VASKhNIL Academician A. A. Nikonov stated, attention should be centered upon assuring a steady growth in labor productivity. So far, each quintal of grain, milk, meat or other products requires very large labor outlays.

The developments and recommendations now available in the scientific arsenal make it possible to increase farm and field output with lower outlays of labor and resources. There are good high yield varieties and hybrids of agricultural crops, highly productive breeds of livestock, the means necessary to protect them from disease and predators, efficient technology have been developed and kolkhozes and sovkhoses have diverse equipment and qualified personnel. What is the problem?

Undoubtedly, it involves the incompleteness of some scientific and technical work, industry's far from full introduction of machinery systems needed by agriculture and their incomplete delivery to kolkhozes and sovkhoses. However, perhaps the basic reason is that fields and livestock operations have not been put into order at many farms. The results of a survey of fields presented at the conference are evidence of this. Very extensive areas are covered by weeds. It turns out that about one-half of the soil moisture and fertilizer goes to weeds. For example, according to the Academy of Agricultural Sciences imeni K. A. Timiryazev, in Tambov Oblast over an 8 year crop rotation period weeds absorbed 65 percent of the nitrogen, 56 percent of the potassium and 44 percent of the phosphorus. There are various reasons for this, but the main ones are the failure to observe crop rotations and agronomic practices, the poor storage and use of organic fertilizers and lack of attention to seed preparation.

Scientists also pointed to the disturbing situation with regard to retaining humus in the soil. According to data from the All-Russian Division of VASKhNIL, humus content has declined by 25 - 30 percent in the RSFSR in the past 25 years. Annual organic fertilizer applications and after-harvest residues total 1,150 kg per hectare, while 1,655 kg of humus forming material is removed with the harvest. Science and progressive experience have long had means and methods for retaining and accumulating humus in the soil. As a rule, they are indicated

in zonal cropping systems. In practice, however, there are often instances where manure is not hauled away for years on end, and when it is it is applied haphazardly to the soil. Machinery builders as well as farmers are guilty here. The former are still not supplying farms with reliable and productive machinery for applying organic fertilizers.

In view of all this, it is now very important for scientific and production collectives to be more persistent and businesslike in moving scientific and technical developments to field and farm. Common efforts are required to do this.

There are examples of successful introduction of work into agriculture and other APK sectors. In particular, the experiment in the Georgian SSR is of definite interest. VASKhNIL Academician V. I. Metreveli described it to the conference. A unified administration for propaganda and the introduction of scientific and technical advances has been set up within republic Goskomselkhozproduktstva uniting all basic sectors of the APK. Subdivisions now operate in RAPO [Rayon agro-industrial associations]. As a result of this restructuring, the effectiveness of the production introduction of scientific developments in 1984 was 6 fold higher than in previous years of the current five-year plan. The introduction system covers all stages: from development and experimental testing of an innovation to its use on field or farm.

N. N. Moiseyev, member, USSR Academy of Sciences, A. I. Barayev and M. F. Lupashku, VASKhNIL members, Yu. A. Izrael' USSR Academy of Sciences correspondent member, L. K. Sechnyak, B. G. Shtepa, VASKhNIL correspondent members and other scientists also made their comments and suggestions during discussions at the conference.

The decree approved by the general conference defines measures to improve the theoretical level and results from work at scientific institutions and to accelerate the movement of their developments to widespread kolkhoz and sovkhaz operations.

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AGRICULTURAL MACHINERY AND EQUIPMENT

RESPONSE FROM OFFICIALS ON MINI-EQUIPMENT PROBLEMS

Moscow SEL'SKAYA NOV' in Russian No 2, Feb 85 p 18

[Article: "Mini-Equipment Poses Problems"; referenced article published in JPRS REPORT: Agriculture UAG-84-033, 27 Aug 84, p 92]

[Text] A collection of letters was published under this heading in issue No 5 of SEL'SKAYA NOV' for 1984.

The following officials give us their answers to that publication.

Deputy USSR Minister of Agriculture N. A. Stolbushkin

USSR Minsel'khos [Ministry of Agriculture] has reviewed the article, "Mini-Equipment Poses Problems," and reports the following.

Production of the Super 600 "motoblok"<sup>\*</sup> has been mastered at the Kutaisi Small-Tractor Plant, and production of the MTZ-05 motoblok has been organized at the Minsk Tractor Plant. These motobloks are equipped with engines of 5-7 hp and have sets of agricultural implements, which include, in particular, transport carts.

During the first half of 1984 motoblok output was: Super 600--815 units, the MTZ-05--1,400 units.

In March 1983 USSR Minsel'khos asked the Chief of Administration of GAI [State Motor-Vehicle Inspectorate] of the USSR MVD [Ministry of Internal Affairs] to regulate use in the country of serially produced motobloks, and also of handmade minitractors and motobloks, which do transport work. Simultaneously, it was proposed that a single standardizing enactment be worked out that would define the procedure for the production and use of homemade agricultural machinery, similar to "Technical Requirements for Light Motor Vehicles Produced by Individuals." USSR Minsel'khos concurred with these proposals of the Main Administration of the GAI of USSR MVD and charged the All-Union Scientific-Research Institute for Agricultural Mechanization (VIM), jointly with representatives of NATI [State All-Union Scientific-Research Institute for Tractors], NAMI [Central Scientific-Research Institute for Motor Vehicles and Automotive Engines] and the GAI of USSR MVD, who had been appointed for this purpose, with working out a draft of such a single standardizing enactment.

\*

[Motoblok--probably mini vehicle for farm work, with limited transport capability]

In our opinion, this document will enable the use of motobloks and homemade agricultural machinery for transport to be regulated more thoroughly, which, in the final analysis, will help to prevent accidents and road-transport incidents involving this type of equipment.

Deputy Chairman of the State Committee of the USSR on Vocational and Technical Education A. N. Osipov

The State Committee on Vocational and Technical Education has examined attentively the problems touched on in the article, "Mini-Equipment Poses Problems," and reports as follows.

In our view, motobloks that are being produced can be acquired and used both by individual citizens on their private farm plots and by collective horticultural societies and associations. In order to provide for the continuous and safe operation of motobloks, their owners should have definite knowledge about and practical habits in the operation and servicing of the equipment, in driving safety, and in the technology of performing agricultural work with motobloks.

Owners can be trained both privately (independently) or in various groups. After training, owners should pass tests given by examination commissions which are created by the horticultural societies and associations, or by Gos-sel'tekhnadzor [State Inspectorate for Inspection of the Operating Status of the Machinery and Tractor Fleet under the RSFSR Ministry of Agriculture] and obtain a certificate of approval of the right to drive motobloks. In this case, the training should be conducted according to study plans and programs worked out by USSR Gosprofobr [State Committee of the USSR Council of Ministers on Vocational and Technical Education], with the coordination of the interested ministries and agencies.

Chief of the Main Administration of Gosavtoinspektsiya [State Motor-Vehicle Inspectorate] of USSR MVD L. V. Zverkovskiy

As follows from what was published in the journal, before a motoblok with transport cart will appear on public roads and their owners allowed to haul freight, a number of problems connected with the design, testing and operation of minitractors that are produced by industry or can be made privately must be solved. For this purpose, it was considered that it would be desirable to create an interagency commission from the interested ministries and organizations under USSR Minsel'khos.

The Main Administration of the GAI of USSR MVD is ready to take an active part in the work of this commission.

Member of the Administration of Tsentrosoyuz [USSR Central Union of Consumer Societies] and chief of Glavkoopkhozorg [Main Administration for Trade in Hardware and Household Products] Yu. I. Lobov

The prime ministry for producing motobloks is Minsel'khosmash. In developing a design for a motoblok, that ministry, in coordination with Tsentrosoyuz, posed the task of creating such a vehicle that would meet the requirements

of personal farm plot owners and would be small in size, reliable in operation, simple to drive and designed for a wide range of customers (including women, juveniles and the handicapped).

Based upon what was said above, Tsentrosoyuz considers that the opinions of the various organizations expressed in the article that were aimed at improving the operation of motobloks should be considered by the manufacturing enterprises.

Deputy Chief of the Main Administration for Disease Prevention and Treatment of the USSR Ministry of Health V. V. Treskunova

In connection with publication of the article, "Mini-Equipment Poses Questions," we report that USSR Minzdrav [Ministry of Health] is taking part in the development and execution of measures to improve medical surveying of the drivers of automotive transport equipment.

In developing the indicated measures, questions of medical contraindications for permission to drive motobloks with carts will be examined.

However, in order to determine these contraindications, the list of these automotive transport vehicles and the categories of transport to which they are assigned should be defined accurately.

From the Editorial Board. As we see, the interested ministries and agencies take a serious attitude toward the problem raised in the journal. The measures planned, it is to be hoped, will be of real benefit and will help the wide introduction of mini-equipment into the lives of rural residents.

In approaching purely theoretically the answers obtained, one can experience satisfaction and consider that the journal's job on this problem has been carried out. But we have become familiar with the readers' responses, and it has become clear that there are still no few unsolved problems. Here is what, for example, N. G. Bogdanova writes us from Bogandinskiy settlement, Tyumen Oblast.

"I have read your mail about mini-equipment, and also the GAI's opinion about its use and registration, and questions remained after my reading of it.

"1. And what are those experts to do who have made their motobloks and mini-tractors out of scrap, taking suitable parts off the trash heap? No one gives out receipts there. Indeed, not everyone has the pecuniary and actual opportunity to acquire serially produced components and parts, since they are not produced in sufficient quantity and not always, or more precisely, extremely rarely, are they put on sale. Receipts are not required for spare parts for bicycles or mopeds, so why is one necessary for making a motorized plow or cultivator?

"2. I have a moped, to which a serially produced motor trailer costing 38 rubles can be attached. But, unfortunately, for 2 years I have not been able to get this trailer, since they are on sale in only one store in the city, and they are sold out quickly. And I do not ride to town each day--you do not go--since we all have to work, and we are busy during the day. In the

Khoztovary [Household Goods] village stores one can find only some wheelbarrows, for which there is no special demand, because physical strength in the arms is required, and they are not for towing by mopeds or bicycles. What are we female gardeners to do?

"3. Motobloks cost from 1,300 to 1,500 rubles. For this price one can get a motorcycle and sidecar, adapt a plow, tiller and cultivator to it (as many do), and the problem of transport will be solved simultaneously.

"4. On the television program, 'You Can Do This,' the solution of this same problem of working a garden with an electric motor was shown. Why is no attention being paid to electric drive? Indeed, this is severalfold cheaper than motor drive."

The editorial board has received many letters like this one. They are also sent to organizations that are associated in one way or another with the production and sale of mini-equipment. I would like to hope that the managers and specialists of ministries, agencies and industrial enterprises will consider comprehensively the requirements of the personal farm plot.

In its turn, SEL'SKAYA NOV' will return to this vital issue regularly.

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11409

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NEED FOR INCREASING RAPE SEED PRODUCTION DISCUSSED

Generous Return From Rape Production

Moscow SEL'SKAYA ZHIZN' in Russian 19 Oct 84 p 2

[Article by A. Kostyukov, Lipetsk Oblast: "Rape -- A Generous Crop"]

[Text] The director of the Krasnyy Gornyy Sovkhoz, V.P. Gundrov, could calmly pass by any other field, even in late summer, without changing direction or taking his eyes off the road. But rape is another matter. Here, even the foot seems to press down on the brake.

"It is quite good, is it not" the director stated somewhat proudly, "It is a fine crop!"

Approaching a dense green wall of rape, he withdraws a healthy stalk from a tangle of branches and leaves, a stalk containing a cluster of tightly filled pods.

"Will there be about 2 tons of seed here per hectare? There must be. And the seed is quite profitable -- 900 rubles per ton. Last year we sold 600 tons -- 415,000 rubles of clear profit. It is said that this is a money crop."

The next rape field -- for feed purposes. This is a post-harvest June sowing.

"Certainly, we will not obtain 400 quintals of green material from this field, as we did from the spring sowings. But this is fine green material!" The director removes a hand from the steering wheel and counts off with his fingers. "First of all, it lasts until the first snow, at which time no other green material is available. Secondly, it is the smallest 7 quintals of protein per hectare! And how much oil does it contain? The fat content of milk obtained from rape feeding jumps to 4 percent."

Gundrov installed a type of oil processing shop in a brick building alongside a grain thrashing floor. Two simple presses are used for producing the rape oil. The sovkhos, similar to the entire oblast, uses the Salyut, Ol'ga and Khanna varieties and also the Emma winter cress variety, the oil of which is very close to olive oil in terms of its oleic acid content. The oil -- in a flask and the oilcake which remains after squeezing are sent to the farm.



"Look and see what is obtained" the director once again resorts to arithmetic, "For a seed yield of 20 quintals, we obtain roughly 8 quintals of oil plus a ton of oilcake per hectare. And in terms of protein, the scientists equate this ton to 4 tons of barley."

One readily understands that Viktor Pavlovich is a great admirer of rape. Yes and it can generally be said that this crop is well liked in Lipetsk Oblast. This is apparent with the naked eye. It is not tall and succulent in all cases as it is at the kolkhozes Zavety Il'ich, imeni Kirov or at the sovkhoses Krasnyy Kolos and Krasnyy Gornyyak. But if we take an average field, its productivity is still readily apparent. Meanwhile, the workers in Lipetsk Oblast did not view this crop as being one of the more important ones. They commenced the work in a serious manner only 2 years ago on 900 hectares at four farms. However, by last year the oblast was obtaining 18.3 quintals of seed from each hectare, it satisfied completely its own requirements for such seed and it delivered approximately 4,000 tons to the state resources -- 60 percent of the amount planned for the entire republic.

True, the weather last summer was ideal for rape, a statement which does not hold true for this year. This spring the sowings were subjected to severe drought conditions. Although the rape was affected in like manner as the other crops, nevertheless the farmers succeeded in obtaining 5,345 tons of seed -- 17.8 quintals from each hectare.

In short, although they were not the leaders in carrying out this work, they nevertheless did so in a thorough manner. Specialists attached to the agricultural experimental station and the oblast station for the use of chemical processes and the agronomists assigned to seed production farms required only 2 years for defining the assortment, the technology, the sowing norms and the fertilization and protection to be provided for the sowings. There are those who have begun this work and who are now working and relying upon the use of imported seed. Here the primary concern is seed production. Its structure is quite complicated. Imported super elite seed is sent to an elite seed production farm of an experimental station and the elite sowings are concentrated on 15 farms in Lipetskiy and Gryazinskiy rayons. As a result of intelligent work on the part of these seed farms, the oblast annually produces more than 5,000 tons of 1st reproduction seed from 15,000-17,000 tons of initial stock.

Rape and winter cress seed plants were planted on 3,200 hectares this year. Approximately 10,000 hectares were sown for green feed. This was in the spring. In June and July, following the harvesting of the "green production line" crops and the early grain crops, a second sowing of rape was carried out -- approximately 15,000 more hectares. The harvest from this sowing was sufficient for supplying each cow with 15 kilograms of green material daily for one and a half autumn months.

As is the case with any unfamiliar crop, just as soon as it is moved out onto the fields rumors begin to circulate regarding its use. Concerning its special "disposition," its raised requirements with regard to soil fertility, its tending and so forth. In some areas, such talk takes place concerning rape. But the squeamishness of this crop is clearly exaggerated.

Distinct from many other crops, it makes no claim with regard to space out on a fallow field. Here it is sown following common stubble predecessor crops and high yields are obtained. Quite often it is said that rape has too great an "appetite." Yes, certainly, there is a price for its protein and for the oil of its "raw material." However, rape leaves behind, on each hectare, a root mass that in terms of fertilizer characteristics is equivalent to 15 tons of farmyard manure and the farms obtain fine grain crop yields from such land.

Rape is strongly criticized for its susceptibility to pests and diseases. If this is so, so be it. According to Gundrov, the pests know what is good for them. But that which causes others to be disillusioned with rape has forced the Lipetsk agronomists to be constantly prepared with their sprayers on a daily basis.

There is still one other cause for complaint: the fatty rape seed must immediately and directly be sent from the combines for drying and sorting. Moreover, the drying must be carried out in a cautious manner. The Lipetsk workers are fully in agreement with this. Yet I have never seen any special drying-sorting points on their farms. It would obviously be well for them to have such specialized points and yet they still attempt to get by using the well known and readily available OVP-20A, OS-4.5A and Petkusami fans and heat generators.

Herewith, a comment made by the chief of the Department of Seed Production of the Oblast Agricultural Administration L.P. Nepobedimaya:

"Rape has a remarkable coefficient of propagation. You sow 1 kilogram of seed and obtain 200. Thus, it is difficult to find a better crop in terms of a return on expenditures for seed production."

This rather fair comment would seem to provide a good ending for our discussion. But we are not yet ready for such an ending. A need exists for discussing further the future for rape production in the oblast.

However strange this may sound following all of the above, nevertheless its future is not all that clear. Despite this fact however, the Lipetsk workers are working very diligently in behalf of rape. In addition to that which they have already accomplished with this crop, they also plan to launch the extensive production of oil-bearing seed and, it follows, rape oil. At the moment, this work is being held up by the absence of the required base. But this is only temporary. The oblast organs have tasked the Gryazi Plant for Hydraulic Engineering Units with producing hundreds of presses for the kolkhozes and sovkhoses, similar to those in use at the Krasnyy Gornyy Sovkhoz. In addition, the plans call for the construction for the oil mills of an inter-farm department for the processing of oil-bearing seed, the plan for which has already been drawn up. In conformity with this, a considerable expansion will take place in the rape fields. In particular, this will be carried out at the expense of sowings of low productivity sunflowers.

Here it is necessary to make one reservation. In these plans, frankly speaking, the farm leaders do not assign a priority to the production of oil -- rather, they are attracted to a greater degree to the possibility of obtaining rape

oil-seed meal. The opinion is almost unanimous: it is more advantageous to cultivate oil-bearing seed and to have one's own oil-seed meal than it is to sell high quality seed and purchase mixed feed in exchange, as is being done at the present time.

"Moreover" commented L.P. Nepobedimaya, "this is particularly true in view of the fact that oil-bearing seed involves less fuss and bother than does straightforward seed material."

There can be no doubt but that the capability exists within the oblast for rapidly organizing the processing of rape for oil and oil-seed meal. But in such a case, what will happen to seed production? Will it be relegated to a secondary position? It will be unfortunate if this occurs. Everyone is aware of the fact that seed production is the most difficult area of concern in the cultivation of any crop. It would seem that the very fact that there is an oblast which has successfully organized the commodity production of high quality rape seed should be viewed as a great success at least for the RSFSR. Is it not possible for the forces and resources of this oblast to be diverted for the cultivation and processing of oil-bearing seed? This same seed which the Lipetsk farms are now harvesting will be sufficient for sowing almost one half million hectares of rape and winter cress in other oblasts. It is from these same hectares that the oil-bearing seed must be obtained.

At first glance, a comparison of seed production against the cultivation of oil-bearing seed appears to be artificial. Indeed, it has been stated: the plans call for a sharp increase in the oblast's rape fields. Does this mean that it is possible to carry out both operations successfully? The whole point is that such a possibility still does not exist. That which the farmers here have achieved is more the result of enthusiasm than it is the availability of a strong material base. Thereafter it would be risky to break away from this base by expanding the rape sowings. In all probability, the first task should be that of eliminating the alienation that has developed.

When these lines were written, it was raining outdoors. And the thrashing of the winter cress and rape was already in progress on the farms. V.P. Gundrov placed a phone call to the Oblast Agricultural Administration requesting that he be supplied with plastic on an urgent basis -- needed for covering the seed. And indeed the Krasnyy Gornyyak is one of the leading sovkhoses. Why does it need the plastic? A good quality covered thrashing floor is required for carrying out work with rape seed. There must also be specialized drying and sorting equipment. In addition, modern harvesting machines must be available. Unfortunately, this year the difference between the biological seed yield and the actual yield reached five or more quintals.

The fact that the semkhoses [seed farms] are obtaining high yields, despite losses during threshing, is largely explained by the quality of the seed being supplied to them. This seed is incrustated, a film of toxic chemicals reliably protects not only the seed but also the young plants from diseases and pests. The incrustation technology has been around for some time. However, local farms are not properly equipped for treating the seed in this manner. Hence they need incrustation units if they are to supply the consumers with seed that is already in a protective covering.

Certainly, there is no great need for a Lipetsk agronomist to display concern for the interests of these consumers. This is the concern of the republic's Minsel'khoz /Ministry of Agriculture/ -- to ensure that seed production for the oblast continues to be the most profitable endeavor in rape production and that oil production develops only on the basis of the waste products of seed production. Indeed, it is fully understandable: if there is a sufficiency of good quality seed in the republic -- there will also be oil.

#### Rape Sowings To Be Expanded

Moscow SEL'SKAYA ZHIZN' in Russian 20 Feb 85 p 2

/Article by B. Martynov, deputy minister of agriculture for the RSFSR: "Sowings Will Be Expanded"/

/Text/ The RSFSR Ministry of Agriculture has examined the article by A. Kostyukov entitled "Rape -- A Generous Crop," published in Issue No. 241 of SEL'SKAYA ZHIZN' for last year. A special decision has been handed down in connection with this question.

The seed production for rape is presently concentrated at 220 specialized farms, all of which have modern equipment at their disposal. Points for the primary processing and drying of rape seed have been built at a number of kolkhozes and sovkhoses. The capabilities of seed production stations for grasses are used for the final processing of the seed; last year these stations accepted for the state resources and prepared for sowing 3,700 tons of seed.

During the 12th Five-Year Plan, the plans call for the procurement of high quality rape seed in the RSFSR to be raised to 20,000 tons, including by means of specialization in Lipetsk Oblast -- up to 10 and in Omsk Oblast -- up to 5,000 tons. Towards this end, the rape fields in Lipetsk and Omsk oblasts will be expanded by improving the structure of the areas under crops.

In order to strengthen the logistical base of farms engaged in the production of rape seed, the production of special equipment will be organized: triple-unit, highly productive cultivators, ring-toothed rollers, pneumatic precision drills, seed incrustation machines, attachments for combines and so forth.

At the Krasnyy Gornyyak Sovkhoz in Lipetsk Oblast, the plans call for the construction of a department for the incrustation of rape seed, with use being made of domestic film-forming preparations.

Scientific research work is being carried out in connection with rape. A study of the periods and norms for sowing rape in pure form and in various feed mixtures is being carried out at the All-Russian Branch of VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/. Institutes of the VASKhNIL Branch for the Nonchernozem Zone of the RSFSR have commenced studies on the use of spring rape for fodder as an intermediate crop and an evaluation is being carried out on the nutritional value of silage prepared from rape and its mixture with oats. In addition, the best varieties are being studied and selected.

The ministry's specialists are preparing a program for the further concentration of rape seed production. The task has been assigned of increasing the seed production volumes, on the average per farm, to not less than 150-200 tons and of building a point for the primary processing and drying of a heap of rape at each seed production kolkhoz or sovkhov. The zones and volumes for the commodity production of rape seed for the production of food oil are being defined.

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MEASURES FOR INCREASING RAPE CULTIVATION DISCUSSED

Moscow ZAKUPKI SEL'SKOKHOZYAYSTVENNYKH PRODUKTOV in Russian No 1, 1985 p 32

/Article: "Measures for Increasing the Cultivation of Rape"

/Text/ In conformity with Order No. 243 of the USSR Ministry of Procurements dated 20 August 1984 and in addition to other measures aimed at increasing the cultivation of rape, a payment has been established commencing with the 1984 harvest for those kolkhozes, sovkhoses and other agricultural enterprises and organizations which are commencing the cultivation of rape (winter cress). This payment will be made during the first 3 years in which they sell seed for this crop to the state and it will be in the amount of 20 percent of the established purchase price for it.

At sovkhoses and other state agricultural enterprises and organizations, authority has been given to introduce a raised wage for workers engaged in harvesting rape (winter cress), in keeping with the wage amounts established for corresponding categories of workers engaged in the harvesting of grain and pulse crops, corn for grain and silage, sunflowers, industrial sugar beets, potatoes, seed plants for grasses and sugar beets, spinning flax and also in the procurement of feed.

It has been established that, commencing with the 1984 harvest and up until the year 1990, a counter sale of oilcake (oil-seed meal) will be carried out for kolkhozes, sovkhoses and other agricultural enterprises at the rate of 50 kilograms for each quintal of rape (winter cress) seed sold to the state.

In this regard, the counter sale of oilcake (oil-seed meal) for the sale to the state of rape (winter cress) seed over and above the average level achieved during the 10th Five-Year Plan will not be carried out for the mentioned farms.

For the purpose of carrying out this order, the procurement ministries of the union republics are obligated to undertake all of the measures required for ensuring fulfillment of the established plans and tasks for procuring seed for rape of a seed and food nature and for ensuring the continuous acceptance, timely processing and complete safeguarding of this seed. Towards this end, the required number of grain receiving enterprises must enter into specialization during the 1985-1990 period and they must be provided with the

appropriate technological production lines for accepting and carrying out the post-harvest processing of the products.

For the sake of correctness, strict control must be established over the payment of a 20 percent bonus added on to the established purchase price for the rape (winter cress) seed and also over the timely implementation of counter sales of oilcake (oil-seed meal) to the farms for the sale of this seed to the state.

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CLOSER LINKS URGED BETWEEN SEED TESTING AND RAISING

Moscow SEL'SKAYA ZHIZN' in Russian 2 Nov 84 p 2

[Article by U. Valiullin, director, Stolbishchenskoye OPKh [Experimental--Production Farm], candidate of agricultural sciences; and U. Lutfullin, senior scientific associate, NIISKh [Scientific Research Institute for Agriculture]: "Variety Replacement. How to Accelerate it"]

[Text] The correct choice of agricultural crop varieties is a major factor in intensive crop raising. For example, the introduction of lodging and disease resistant "Chulpan" rye and "Moskovskaya-35" and "Rodina" wheat considerably reduced harvest losses.

The duration of new varieties' effective use has been declining steadily in recent times. Thus, in Tatariya, after 20 years of regionalization, "Kazanskaya" rye was replaced by "Saratovskaya-4". After eight years this latter was replaced by "Chulpan". The State Committee for Varietal Testing is already examining competitors for "Chulpan".

The "Ruslan", "Mirnyy" and "Gorizont" oat varieties were regionalized over short intervals. There are several such examples.

Clearly, at such a pace, delays in variety replacement cause farms sizable losses. It is therefore one of seed raising's present tasks to breed promising varieties at a pace sufficient to assure replacement as soon as possible. The existing procedure for regionalizing and organizing seed raising by no means completely meets this important requirement. In our view, the problem is that the steps in the variety testing and production of reproduction seeds are too far apart.

As is known, the raising of elite seeds is preceded by preparatory work -- primary seed raising. This requires 2 - 4 years. It is also essential to have high quality initial material. Following this pattern, experimental-production farms at scientific research institutions begin to work on primary seed raising no earlier than 1 - 2 years before the regionalization of a new variety. Prior to this they neither have long term forecasts, nor even initial seed stock.

The next difficulty is that the initial material for primary seed raising arrives, as a rule, in very limited quantities, not more than 10 - 15 quintals. The dissemination of a new variety, for example to 250,000 hectares over a three year period, requires 3,500 - 4,000 quintals of seed.

One should add here that the situation for the breeder is not so strained, new varieties are also regionalized in many other regions.

Finally, the existing method obligates one to engage in primary seed raising for an old variety until it will no longer officially be transferred to regionalization without primary seed raising. In practice, this coincides with the next replacement of a variety. As a result, some departments for primary seed raising are forced to spend unjustifiably long times working with declining varieties, to the detriment of promising ones.

This procedure stretches out work so much that although more valuable varieties have appeared, mass reproduction seed still predominates in the planting. Many farm managers, having no hope of rapidly obtaining new varieties of seed, try to establish direct ties with breeders. The latter enter into these ties although they know that they bypass the existing procedure.

In this situation the state variety testing system has greater possibilities for seed production. During the course of testing, varietal sections and their base farms obtain large amounts of grain which, if necessary, could be used for seed. Base farms are therefore the possessors of the first quintals of seed for new varieties. Many sections have skillfully used this real advantage during the introduction of newly regionalized varieties.

Here are a few facts. During 1981-1983, state variety sections in the Tatar ASSR annually grew up to 16,000 quintals of the scarcest seeds. Incidentally, this was more than one-fifth of the republic's needs for planned variety replacement. For example, last year the republic's state variety sections harvested 385 quintals of "Truzhenik" peas, which are being regionalized this year. The republic's experimental-production farms obtained only 10 quintals from the breeder for the 1983 crop and now have only a few dozen quintals of this very scarce variety. This is a meagre amount. Without downplaying the role of the State Variety System, it is essential to stress that the production of higher reproduction seeds should be way beyond the limits of its functions.

Seed raising is an independent sector of agricultural production. The raising of high quality seed requires the labor of qualified specialists and the appropriate material base. At present many state variety sections have neither one nor the other. Consequently they are not now ready for the production of high quality seed which is really suitable for use as the basis of a variety.

The conclusion arises: The elimination of these contradictions requires either the organization of special departments at state variety testing sections and stations or bringing variety testing as close as possible to the present structure for seed raising.

As a first step it would be sufficient to base state variety testing sections at the experimental-production farms of scientific research institutions. The parties' economic relations would be regulated by existing standard contracts. The scientific and methodological guidance of variety section work should be completely under the authority of the central commission for variety testing.

This is necessary to guarantee the objectivity of evaluations. Based on experimental results at the end of each year, a special methodological commission will determine the list of varieties for preliminary breeding to prepare one of them for regionalization. The scientific research institution's department for primary seed raising will simultaneously be engaged in this work.

The basing of state variety testing sections on experimental-production farms will also make possible improvements in testing and the more thorough evaluation of varieties from a production perspective. The better availability of special small equipment at scientific research institutions and their well equipped laboratories are guarantees of this.

In such a structure the volume of preliminary breeding increases somewhat. However, these small outlays are justified by the accelerated spread of new varieties to kolkhoz and sovkhoz fields.

The organization of variety testing directly at seed raising farms of scientific research institutions will permit the timely forecasting of variety replacement and the combination of accelerated breeding with the use of special methods for producing higher reproduction seeds. This gives rise to the real possibility of rapidly replacing varieties only with high quality seeds.

In 1984, with the help of the Republic Inspectorate for Variety Testing, the Tatar NIISKh set up experimental competitive testing of new varieties of grain crops at the Stolbishchenskoye OPKh. The convergence of variety testing and seed raising is a necessity dictated by the principles of integrated agricultural development. It will undoubtedly permit the use, with maximum efficiency, of selection's achievements.

11574  
CSO: 1824/296

5 June 1985

## TILLING AND CROPPING TECHNOLOGY

## SUGGESTION TO MERGE SEED TESTING AND RAISING ANSWERED

Moscow SEL'SKAYA ZHIZN' in Russian 21 Mar 85 p 2

[Article: "After the SEL'SKAYA ZHIZN' Article -- 'Seed Replacement. How to Accelerate it'"]

[Text] USSR Sortsemprom [Varietal Seed Raising Production Association] examined the article "Variety Replacement. How to Accelerate it", published in the paper on 2 November last year. It agreed with the authors' assertions that the transitions to new regionalized varieties must be faster. This is the purpose of the USSR Ministry of Agriculture Order: "On Measures to Accelerate the Production Introduction of New Regionalized Varieties and Hybrids of Agricultural Crops."

In particular, this order authorizes scientific-research institutions, educational-experimental and educational-production farms at VUZ's and tekhnikums, and variety testing sections to produce elite seeds by accelerated methods for two years after a variety's regionalization.

This measure makes it possible to grow the first batches of elite seeds from available original seeds immediately after a new variety is deemed promising. By the time it is regionalized there will be the necessary quantities of elite seed stock.

At the same time, as G. Larionov, deputy chief of USSR Sortsemprom reported to the editors, experimental-production farms at scientific-research institutions and educational-experimental farms at agricultural VUZ's are obligated to give selections to all primary seed raising nurseries in volumes assuring the annual production of elite seeds for planned variety replacement.

As concerns the authors' suggestion to base variety testing sections on the Tatar Scientific Research Institute for Agriculture's Stolbishchenskoye Experimental-Production Farm, this specific question is under the competence of the Tatar ASSR Ministry of Agriculture and the State Committee for the Variety Testing of Agricultural Crops. In its answer to the newspaper, the Tatar ASSR Council of Ministers supported the idea of a scientific-production experiment based on the Stolbishchenskoye OPKh. The matter lies with the USSR Ministry of Agriculture's State Committee on Variety Testing.

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## IMPROVEMENTS IN AIRBORNE SUPPORT FOR AGRO-CHEMICAL WORK URGED

Moscow KHIMIYA V SEL'SKOM KHOZYAYSTVE in Russian No 2, Feb 85 pp 2-5

[Article by V. A. Kharchenko, candidate of economic sciences, Krasnodar Branch of State Scientific Research Institute of Civil Aviation: "Improve the Effectiveness of Airborne Chemical Work"]

[Text] Each year mineral fertilizers and pesticides are applied to over 100 million hectares in our country with the help of agricultural aviation. This is why questions of improving the organization and management of airborne chemical work are of great importance.

Efficient management must be improved for the most productive use of the aircraft and helicopter inventory, for assuring flight safety and for performing all work within the optimum agrotechnical time periods. A large number of flying craft are concentrated in the zones of heavy use of aircraft and helicopters during airborne chemical work. Under these conditions the presently existing system for managing airborne chemical work does not always assure efficient direction and prompt, quality technical servicing of aviation assets, since it is accomplished chiefly from the air enterprise's main base. Difficulties in organizing airborne chemical work and in obtaining timely, accurate information are created with such management, which often leads to aircraft and helicopters standing idle, to disruptions in time periods for performing work, to a weakening of supervision and to a decrease in flight safety.

Along with the growth in volume of airborne chemical work there is an expansion in production ties of the air enterprises with agricultural enterprises and organizations and a significant increase in the volumes and types of information which must be processed before a decision is made and management orders are developed. The most dynamic are the processes occurring right at the operational sites (in the kolkhozes and sovkhozes) and at the place where the crew and air flights are serviced. For this reason there must be prompt information which would arrive simultaneously with performance of the work. With such information the command-management personnel have an opportunity to take steps to eliminate the downtime of aircraft and helicopters at operational sites and to rationally maneuver the pool of aircraft and helicopters for performing airborne chemical work within the optimum agrotechnical time periods.

The "Recommendations on the Organization of Support Bases in Airborne Chemical Work" as well as the "Standard Statute on a Support Base for Use of Aviation in the National Economy" have been drawn up to improve the organization and management of airborne chemical work and technical servicing of aviation equipment.

A support base is a specially outfitted point: command-administrative (exercising general direction and fulfillment of contractual obligations with customers), control (directly controlling the flights) and technical, assuring the technical serviceability of the aircraft and helicopter pool for the entire period of its operation apart from the air enterprise's main base.

In this zone of activity, a support base usually services 10-15 items of aviation assets operating at a distance of no more than 50-70 km from it and accommodated in the airports of local air routes or at equipped interfarm airfields. When a support base is set up at an airport of local air routes, it is given the necessary administrative-production and economic buildings and equipment. But if the support base is set up at an interfarm airfield where there are no spaces for accommodating the command, control and technical points, it is provided with mobile assets (motorized shelters, motorized mobile repair shop, mobile radio, special motor transport and so on).

The organization of support bases allows an air enterprise to relieve the load on the base airport and shift operational control directly to the locations of airborne chemical work, which considerably improves their level of organization, strengthens supervision over the crews' observance of the technology and quality with which the work is performed, reduces unproductive flying hours, decreases downtime for organizational and technical reasons, and improves the production link from the air enterprises to the kolkhozes and sovkhozes as well as to rayon agricultural bodies and Sel'khozkhimiya [Agrochemical Services to Agriculture].

With the establishment of support bases it is possible to obtain systematic, valid information, which significantly contributes to improved management efficiency.

A support base accomplishes the following functions in accordance with the tasks assigned: it maintains constant radio communications for the crews of aircraft and helicopters under the "crew-support base-air enterprise" arrangement; it provides for the prompt fulfillment of contracts and assignments by types of work; it takes steps to improve labor productivity and reduce the production cost of this work; it takes into account the crews' production activity (organization and volumes of work) and the technical condition of aviation equipment; and it monitors the time periods and quality of airborne work performance as well as the promptness of customers' settlement with the air enterprise for the work performed.

The significance of organizing the management of airborne chemical work through the support bases lies in the fact that during intensive periods of work it permits regulating the production process, precluding duplication, reducing the number of sources of information received and sent from each

control echelon, and bringing more effective influence to bear on the progress and results of work.

A developed structure for the management of airborne chemical work is being used in the Ukraine. Table 1 shows generalized data on the effectiveness of the proposed structure of management through support bases for the republic as a whole and in its economic regions.

Table 1. Effectiveness of Performing Airborne Agricultural Work Through Support Bases in the Ukrainian SSR (Average for 1979-1982)

Economic Region	Cut in Down-time, Days	Treated Area, thousands of hectares		Additional Products	
		Total	Additional	Thousand tons	Thousand rubles
Donetsk-					
Dnepr	650	1169.7	26.9	4035	302.6
Southwest	112	452.0	4.0	600	44.4
South	340	1515.3	13.1	1965	145.4
Total	1102	3137.0	44.0	6600	492.4

The application of such a management structure permitted obtaining additional products annually amounting to R492,400 on an average for the period 1979-1982 thanks to the prompt airborne fertilization and the weed control.

One of the factors for the increase in labor productivity in airborne chemical work is the development, substantiation and adoption of the most rational forms for organizing the utilization of flying craft. Experience has shown that the most progressive form of labor organization in performing airborne chemical work is the organization of the crews' shift work permitting an optimum combination of the labor and material reserves of civil aviation and agricultural enterprises.

Because of the better use of hours of daylight in the crews' shift work, the daytime output per flying craft increases by up to 1.5 times in comparison with single-shift work, which permits using the very same pool of aviation equipment to additionally treat considerable agricultural crop areas in compressed agrotechnical time periods.

The duration of daylight with consideration of downtime of aviation equipment for organizational, technical and weather reasons is one of the basic conditions determining the advisability of organizing crews' shift work for performing airborne operations with the observance of processing methods. Experience in a shift organization of labor in airborne chemical work has been gained in a number of air enterprises of the Ukrainian Civil Aviation Administration. Shift work by crews of these air enterprises is organized depending on conditions for the performance of airborne agricultural work: by two crews

for a day's time or by crews alternating every other day, every ten days or every 15 days during the month.

The shift work of crews is recommended for use in spreading mineral fertilizers; in working with highly toxic pesticides; in treating the fields of two or more farms from a single airfield; in performing airborne agricultural work which, based on the conditions of processing methods, can be done during the hours of daylight; and in the maneuvering of the aircraft-helicopter inventory and the crews.

An analysis of the work of the aircraft-helicopter inventory in those air enterprises which for a number of years already have been applying the shift organization of the crews of flying craft for applying mineral fertilizers and weed control shows that it permits an increase in the daily and seasonal output by 25-30 percent and treatment of considerable additional agricultural crop areas.

For example, as a result of an organization of shift work for the crews of flying craft in performing airborne chemical work for the Ukrainian Civil Aviation Administration as a whole, air enterprises received a net profit of R10,000-R20,000 and treated an additional 700,000-900,000 hectares within optimum agrotechnical time periods.

Maneuvering, i.e., creating composite air subunits for performing airborne chemical work both outside of and on the territory of a region served by the Civil Aviation Administration, is another progressive form of labor organization of airborne chemical work which contributes to an improvement in the effectiveness of air equipment utilization.

The "Model Statute, Structure and Staffs of Composite Air Subunits of PANKh [Use of Aircraft in the National Economy]" developed by the All-Union Scientific Research Institute for the Use of Aviation in the National Economy and Civil Aviation (VNIIPANKH GA) permits rational maneuvering of aviation equipment for the fullest and most prompt satisfaction of the needs of kolkhozes and sovkhoses in performing airborne chemical work in the best agrotechnical time periods. In accordance with its purpose, the composite civil aviation subunit provides for accomplishment of the following tasks: performance of airborne chemical work over large areas within compressed agrotechnical time periods by a specific amount of aviation equipment, rational combination of labor and material resources, and an increase in the intensiveness of aviation equipment utilization.

In accordance with its tasks, the composite PANKh air subunit performs the following functions: it arranges preparatory measures in impending work areas; it clarifies the volumes and time periods for the beginning of airborne chemical work; it performs the allocation of aviation equipment in assigned areas with consideration of its compact distribution, as well as a daily collection, analysis and transmission to air enterprises of the data on fulfilled volumes of airborne chemical work, hours flown and reasons for downtime; and it assures that all personnel observe safety precautions in strict conformity with the existing "Rules for Safety Precautions and Production Sanitation in

Airborne Chemical Work" and the "Instruction on Safety Precautions in the Storage, Transportation and Use of Pesticides in Agriculture."

It is recommended that the plans for maneuvering according to the scope and nature of movement of aviation equipment and crews for performing airborne chemical work be drawn up simultaneously with the compilation of annual production-financial plans on the basis of requests from agricultural enterprises. The following are the initial data for compiling a maneuvering plan: the volume of airborne chemical work announced by agricultural bodies by types and time periods for accomplishment; calculation of the study plan for the aviation equipment pool; aviation equipment reserve by air enterprises; and length of flight to the work site. According to the scope of aviation equipment's movement, the maneuvering may be local (in the territory constantly served by the air enterprise) or operational (between civil aviation administrations).

Our analysis of the use of aviation equipment in the Ukrainian SSR showed that each year, of the total volume of airborne chemical work performed by air enterprises through maneuvering, local maneuvering accounts for 80-85 percent and operational maneuvering for 15-20 percent.

The operational maneuvering of aviation equipment cuts down the seasonal nature of airborne chemical work, it evens out the use of aviation equipment throughout the year to a certain extent, and it provides an opportunity of treating large agricultural crop areas promptly and with quality in optimum time periods. Because of this the Ukraine has been obtaining additional agricultural products averaging R465,500 in recent years (Table 2).

Table 2. Effectiveness of Airborne Agricultural Work with Maneuvering of Aviation Equipment on Territory of the Ukrainian SSR (on the Average for 1981-1982)

Economic Region	Additional Output		Additional Products		Seasonal Productivity, %
	Aircraft days	Thousand hectares	Thousand tons	Thousand rubles	
Donetsk-					
Dnepr	618	98.1	4905	245.2	112.1
Southwest	226	26.2	1310	65.5	106.5
South	476	58.3	2915	145.8	108.5
Total	1320	182.6	9130	465.5	109.0

Great importance is attached to the rational organization of work stations in performing airborne chemical work. Inspections of work stations at agricultural airfields in a number of the country's rayons permitted the finding that their organization on the whole meets production requirements, but it has not yet formed once and for all as a complete, scientifically grounded system. The



"Recommendations for the Organization of Work Stations at Agricultural Aviation Airfields" developed by VNIIPANKh GA with respect to conditions for performing chemical work using aviation equipment from operational airfields propose the prompt resolution of a single set of questions of an organizational and technical nature allowing consideration of the specific features of agricultural production and airborne chemical work in the presence of a large number and diversity of work stations, each of which requires a standard solution. The suggested rational arrangements for planning work stations, their outfitting with equipment, as well as the servicing of work stations and creation of best working conditions permit productive use both of the flying craft and the work time of aviation technical personnel and worker brigades.

It should be noted that the "Recommendations" defined a number of issues which must be resolved by civil aviation and agricultural enterprises in organizing work stations at existing agricultural aviation airfields and in drawing up assignments for planning new and renovating existing airfields.

The next factor in improving the effectiveness of airborne chemical work is the organization of a group basing of aviation equipment, which makes it possible to avoid excessive centralization of management and to resolve many operational matters and assure prompt fulfillment of a given volume of work at the group basing sites.

The experience of group basing of the flying craft during the performance of airborne chemical work revealed a number of its advantages. First of all, concentration of flying craft, flight-technical personnel, fuels and lubricants, spare parts, equipment and other technical property at a group basing point permits improving the preparations for performance of airborne chemical work, strengthening control over flight safety, and assuring local maneuvering of the flying craft and their periodic technical servicing. Secondly, group basing of the flying craft makes it possible to raise the level of political indoctrination and mass cultural work with the personnel. The presence of crews of an entire flight at a group basing point makes it easier to conduct political information sessions, briefings, and individual and group talks with the personnel; to critique and provide for information the data necessary for improving flight safety; and to discuss immediate tasks.

The group base control tower is outfitted with radio and telephone communications. The air flight commander controls flights and receives necessary operational information on work performance. At the same time, the air flight commander is linked with the air enterprise commander, with rayon party and soviet bodies, and directly with the management of kolkhozes and sovkhoses for resolving urgent matters which come up.

The Azerbaijan SSR revealed the effectiveness of organizing airborne chemical work with the group basing of aviation equipment. In 1982 the daily productivity of aviation equipment increased 10 percent in comparison with 1981 in controlling pests and diseases of agricultural crops with a 50 liters per hectare norm for the use of working fluid, and downtime for organizational reasons was cut almost in half, which provided for performance of the given work over large areas in optimum time periods. In weed control work performed in



1982 the average daily flying hours for one aircraft increased 1.4 times in comparison with 1981 with a 25 liters per hectare norm for the use of working fluids and the coefficient of extensiveness of aviation equipment use rose from 0.68 to 0.96, which also contributed to the performance of that work within the necessary agrotechnical time periods.

The group method for basing aviation equipment provides for the future introduction of internal cost accounting, a brigade organization of labor at the air flight level and, on this basis, figuring of wages for end results of production work depending on each air flight member's contribution.

The organization of group basing of flying craft in the Azerbaijan Civil Aviation Administration during 1980-1981 permitted a 10-15 percent drop in the downtimes of aviation equipment for organizational reasons and, in the intensive periods (May, June, August, September) it facilitated the performance of airborne chemical work within optimum agrotechnical time periods.

Thanks to the effective organization of group basing of flying craft on the territory of the Azerbaijan SSR in 1982, the entire volume of airborne chemical work was accomplished with only the aircraft pool of the Azerbaijan Civil Aviation Administration (without bringing in aviation equipment for maneuvering) and the freed equipment was used in other regions to perform work within the optimum agrotechnical periods.

The organization of group basing of flying craft permits a considerable expansion in the range of management, an increase in management efficiency and culture, and assurance of precise interworking of all components in airborne chemical work.

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## TILLING AND CROPPING TECHNOLOGY

### NEW BARLEY VARIETIES INTRODUCED

Minsk SEL'SKAYA GAZETA in Russian 14 Mar 85 p 2

[Article by S. Grib, manager, Selection Center for Grain Crops, candidate of agricultural sciences; M. Kadyrov, senior scientific associate, BelNII Zemledeliya [Belorussian Scientific Research Institute for Crop Raising] candidate of agricultural sciences; A. Geraskin, chief, Inspectorate for the Varietal Testing of Agricultural Crops; and N. Karako, deputy chief, Belsort-semob'yedineniye [Belorussian Varietal Seed Association]: "The System of Varieties -- A Reserve for Yields"]

[Text] Varieties have an indisputable role in improving yield levels and stability. For example, in BelNII experiments with spring barley, the increase in yields due to the "variety factor", with other conditions unchanged, was 3 - 13 quintals per hectare. However, this factor manifests itself only if there is a proper and biologically based choice of variety. One can give a whole series of data supporting this assertion. For example, light soils require barley varieties with substantially different development biology than do varieties suitable for tightly bound soils.

Experience shows that varieties for light soils should be distinguished by rapid initial development and the effective use of early spring moisture reserves, forming heads with a large number of grains (up to 25 - 30) with high genetic potentials for large caryopsis. Such varieties have average stand density.

In recent years these characteristics have also been taken into consideration by selection work for varietal regionalization. Prior to being sent to the state commission, promising selections undergo extensive ecological testing under various soil-climatic conditions, nutrient conditions and various modifications of tillage methods. Not only plant breeders, but also variety testers participate in the ecological testing, making possible the more objective choice of varieties to be sent to the state commission.

The regionalization of varieties takes into account the diversity of soil-climatic and farming conditions in the BSSR. Agro-ecological regionalization zones are delineated. However, it should be noted that in spite of the extensive collection of varieties being tested at the state commission (for

example, up to 50 spring barley varieties annually), it is practically impossible to find a variety suitable for all years, even for a narrow zone of regionalization. The yearly contrast in weather conditions is so great that in testing a set of varieties over a number of years we constantly observe a "change in leaders" among varieties in the set.

It is still impossible to offer a complete system of varieties for all crops and zones. However, an understanding of their necessity and a knowledge of the structure and principles for creating such a system makes the work of breeders, the State Commission for Varietal Testing and the Belorussian Varietal Seed Association more directed and productive. Farm managers and specialists should also be given an understanding of the need for a system of varieties.

A sufficiently complete system of spring barley varieties can now be offered. This system can consist of: "Ida" (if it is not available "Il'yar" can be used), "Roland" or "Zhodinskiy-5", "Zazerskiy-85" or "Favorit".

These varieties have different ripening times and growth period structures, making it possible for the entire set to more effectively take advantage of favorable conditions and to counteract unfavorable ones.

These varieties have differing resistance to diseases. In cases of unexpected epiphytotic developments of various diseases the damage will be three fold less. "Roland", "Zhodinskiy-5" "Ida", "Favorit" and "Zazerskiy-85" also differ substantially with regard to stress factors and in their reaction to the optimization of growing conditions. "Ida" "Roland" and "Zazerskiy-85" are more responsive to high doses of mineral fertilizers and sufficient moisture. However, they are less suitable with average and poor nutrient availability and have substantially lower yields when following stubble. "Zhodinskiy-5" has better yields than do "Ida" and "Roland" with average or poor nutrient levels and moisture shortages. It is also less demanding with regard to predecessors and more resistant to leaf diseases. On light soils "Ida" is inferior to "Roland" and "Zhodinskiy-5" even with high doses of fertilizer.

In general, these varieties can also successfully supplement one another in cases where farms cannot plant barley after a tilled predecessor, where some of the barley is planted after the optimal time (compared to other varieties, "Zhodinskiy-5" has minimal declines in yields when planting times are not observed) and when moisture varies from year to year.

The distribution of areas planted to varieties in the system is determined by specific conditions on farms and is oriented towards an optimal structure within these limits: Group I, 20 - 30 percent; Group II, 40 - 60 percent; Group III, 30 - 40 percent.

The model conditions of the experiments, which took into account biological and farming differences in these three types of varieties, in the distribution of areas planted to them, in the saturation of cropping structures with grain crops and their possible distribution showed that the gross harvest from the three varieties was quite high and was more stable than for any one of these varieties over a number of years.

We think that based on the principles of supplementation and with consideration given to reasons of farming convenience and the prompt replacement of varieties, the three component system is most advisable, although in some cases other alternatives are not excluded.

It should also be noted that in recent years a number of scientists and practical workers have spoken out for the intelligent use of several varieties, giving various reasons for this need. Also, this approach seems advisable to us because the rapid regionalization of a system makes changes in varieties more flexible. For example, in the BSSR in 1984 the "Nadya" and "Favorit" barleys occupied more than 600,000 hectares. At one time these varieties had reliable increases in yields. However, in recent years they have begun to suffer considerably from diseases and their yields have declined substantially. Their very rapid replacement is thus needed. Understandably, "Nadya" and "Favorit" will be replaced more rapidly if they are replaced by three varieties rather than by one. If areas planted to varieties have equivalent growth rates, then variety replacement will be three times faster both with regard to time and to area.

It is also important to stress that the replacement of one variety in a system is faster and more flexible than replacement where there is no system of mutually supplementing varieties.

Such a system is already being introduced on fields of the republic's progressive farms: the Svetlyy Put' Kolkhoz in Molodechnenskiy Rayon, the Leninskiy Put' in Slutskiy, the Mayak Kommunizma in Borisovskiy, the Peramoga in Zhitkovichskiy Rayon and others.

The creation and introduction of an adapted system of varieties are only beginning. Understanding the importance of this task, the BelNII Selection Center, the State Committee for Variety Testing and the Belorussian Varietal Seed Association are exerting maximum efforts to do this as quickly as possible.

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5 June 1985

## BRIEFS

AGRO-CHEMICAL WEED CONTROL--Tselinograd--Sixteen AN-2 aircraft took off from the Tselinograd Air Enterprise Airfield and set a course for Rostov-on-Don, where they will assist farmers in battling weeds, and they will return home in late May or early June to give the very same help to toilers in Kazakhstan's fields. Then they will again fly off to the cotton plantations of Central Asian republics. Aircraft of the Tselinograd aviators can be seen often over the fields of many of our republic's oblasts. They are applying fertilizers, spraying herbicides, or helping battle the pests of agricultural crops. The farmers call the republic's aviators their trusty assistants, and this is really so. They participate in establishing the harvest in the rice basins and they control weeds. The collectives of other air detachments are thoroughly preparing for spring field work as always right behind the Tselinograd pilots. Each year they treat up to 1½ million hectares in Kazakhstan alone, and no less will be done this year as well. There are pilots who already have fulfilled the five-year plan for area treated. Among them are crews commanded by S. Abuov, V. Fotler, V. Kushnerenko and others. [By KAZAKHSTANSKAYA PRAVDA correspondent I. Yavorovskiy] [Text] [Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 26 Mar 85 p 1] 6904

AIRBORNE AGRO-CHEMICAL WORK--(BELTA)--Workers of the Brest agricultural aviation enterprise are helping the kolkhozes and sovkhozes of the southwestern rayons of Polesye ready fields for spring crops. Aircraft crews began spreading potassium and phosphorus fertilizers in Brestskiy, Maloritskiy, Drogichinskiy and other rayons. "The winged helpers make it possible to considerably accelerate the tempos of field work under the difficult conditions of this spring, which is almost two weeks late," says Ye. V. Kuz'min, chief of the oblast agriculture administration. "This is especially important in the reclaimed peat bogs where driving conditions are poor. The aviators also will help fertilize winter crops on an area of almost a quarter-million hectares in compressed time periods." [Text] [Minsk SEL'SKAYA GAZETA in Russian 31 Mar 85 p 1] 6904



BELORUSSIAN SPRING SEEDS READY--Minsk--Specialized farms in Belorussia have completed preparations of first class seeds for spring planting. Over 300,000 tons -- more than half of the seed stock -- have already been sent to kolkhozes and sovkhoses. High quality grain has been sent to flow lines, where temperature and other processes are automatically regulated. The planned conversion of seed raising to an industrial basis has accelerated the movement of promising locally selected grain crops to the fields. [By TASS] [Text] [Moscow TRUD in Russian 7 Feb 85 p 1] 11574

NEW GRASS SEED IN BSSR--Minsk--Only high quality perennial grass seed is being planted on forage fields in Belorussia. Such seed was processed on flow lines of Belorussian Varietal Seed Association enterprises set up in each oblast. Upon scientists' recommendations, preference was given to intensive type varieties, yielding a rich green mass and containing more protein. [By TASS] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 21 Feb 85 p 1] 11574

CSO: 1824/293

## FOLLOW-UP ON TIMBER RESOURCE USE IN GES FLOOD AREA

## Power Minister Commentary

Moscow EKONOMICHESKAYA GAZETA in Russian No 7, Feb 85 p 18

/Article by P. Neporozhniy, USSR Minister of Power and Electrification: "A Hydroelectric Power Plant and the Forests"; reference article was published in JPRS USSR Report: Agriculture, UAG-85-003 2 Feb 85 p 84/

/Text/ The USSR Ministry of Power and Electrification has examined the article published in Issue No. 38 of EKONOMICHESKAYA GAZETA for 1984, entitled "The Taiga and a Man-Made Sea." The questions raised with regard to the efficient use of forestry raw material resources throughout the country, in connection with hydraulic engineering construction, are indeed vital ones.

One can hardly consider as normal a situation in which hundreds and thousands of hectares of flood zones of reservoirs are being cut down as a rule neither completely and while partially flooded. In particular, this is occurring owing to the fact that USSR Minlesbumprom /Ministry of the Timber, Pulp and Paper and Wood Processing Industry/ views this work not as part of its principal activity but rather as a matter of secondary concern.

The capital investments used for this work are related to the estimates for hydraulic developments. Moreover, in the plans for timber fellings and forest clearing, developed by the specialized Giprolestrans Institute of USSR Minlesbumprom, in response to an order from organizations of USSR Minenergo /Ministry of Power and Electrification/, the expenses are quite often inflated. Thus the total for the Boguchanskiy Reservoir was indicated to be 120 million rubles, whereas only 25 million rubles were expended for the same amount of work at a similar facility in Ust'-Ilimskiy. The plan for the Central Yenisey Reservoir Giprolestrans called for capital investments in the amount of 1.468 million rubles. In accordance with a decision handed down by a state commission of experts of USSR Gosplan, this sum was reduced by one half billion rubles.

While adding vast sums to the estimate for hydraulic developments, intended for wood technology operations, USSR Minlesbumprom is at the same time failing to display proper concern for the organization of these developments. For 7 years now, Giprolestrans has been preparing plans for tree fellings and forest clearing work in the zone of the Krapivinskiy Reservoir in Kemerovo Oblast and still an optimum technological solution for the use of approximately 2 million

cubic meters of deciduous wood has yet to be found. And this is in the face of an acute shortage of wood in this oblast.

USSR Minlesbumprom is carrying out selective fellings of only large-size coniferous wood. Small-scale commodity coniferous and deciduous wood, firewood and also larch remain untouched. This adversely affects the sanitary situation and the operation of the reservoirs, a point that was brought out quite fairly in the article.

At one time, USSR Minlesbumprom and other timber procurement agencies were tasked with carrying out timber procurements in advance (that is, tree fellings -- fellings of commodity wood) in the zones in which future reservoirs were to be created and USSR Gosplan -- to oversee the fulfillment of these operations and the preparation of annual, five-year and long-range plans for the development of the national economy of the USSR, taking into account the priorities established for the construction of hydraulic engineering installations and canals.

In this regard, USSR Gosleskhoz [State Committee for Forestry], RSFSR Minleskhoz [Ministry of Forestry] and USSR Minlesbumprom should ideally intensify their control over the efficient use of forestry raw material resources in the zones of future reservoirs and USSR Gosplan, in connection with long-range planning and the establishment of a tree-felling fund for the timber procurement agencies, should monitor the prospects for the creation of reservoirs and the timely carrying out of tree-felling work in the flood zones.

For carrying out the tasks concerned with increasing the capabilities for the chemical, chemical-mechanical processing of wood scraps, low quality wood and wood of soft deciduous strains, the problem concerned with changing the wholesale prices for wood of deciduous strains and deciduous technological chips, procured in the flood zones of reservoirs, should ideally be examined.

In our opinion, it would also be correct to include the tree felling volumes, similar to the tree felling fund, in the principal plan for timber procurements.

The ministry also supports the recommendation by the author of the article concerning the need for accelerating the construction and placing in operation of timber processing enterprises in regions where territorial-Production complexes and large reservoirs have been created. This will make it possible to cut down completely and utilize all of the commodity wood both in the zones of future reservoirs and beyond their borders.

#### Gosplan Timber Chief Responds

Moscow EKONOMICHESKAYA GAZETA in Russian No 13, Mar 85 p 9

[Article by V. Tatarinov, chief of the Department of Timber Industry and Forestry of USSR Gosplan]

[Text] USSR Minlesbumprom and some other ministries are still only slowly increasing the production capabilities for procuring and shipping the wood of timber procurement enterprises operating in the flood zones of reservoirs.

This in turn is causing a lag to develop in carrying out the work volumes for the felling of trees and the clearing of forests.

In the interest of ensuring the timely and efficient utilization of forestry raw material resources, USSR Gosplan, in the draft annual plans for the economic and social development of the USSR, has called for the ministries to be provided with a tree-felling fund in the flood zones of reservoirs, during the construction of a GES /hydroelectric power plant/, including the Boguchanskiy Reservoir.

In addition, the forestry organs, in conformity with the rules for the release of wood standing in the forests of the USSR, approved in Decree No. 1045 of the USSR Council of Ministers dated 30 October 1981, carry out the priority issuing of wood for felling purposes, for tree felling to be carried out in the flood zones of reservoirs (in the form of "other felling"), with subsequent crediting of the commodity wood procured to the tree-felling fund established for the timber procurement agency in the plan for the appropriate year.

In order to create interest in carrying out the tree-felling work, the timber procurement agencies are released from having to make a payment for wood procured in a flood zone of a reservoir.

The capital investment volumes for tree-felling and forest-clearing work for USSR Minlesbumprom and other departments have been increased for 1985. The plans also call for increases in the capital investments for these purposes for the 1986-1990 period.

Price List No. 07-03 has called for an average increase of 44.6 percent in the wholesale prices for deciduous strains of wood.

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TIMBER, FORESTRY MINISTERS ON WASTE, EQUIPMENT USE

Moscow LESNAYA PROMYSHLENNOST' in Russian 2 Mar 85 p 2

[Excerpts from speeches by G.L. Medvedeva, 1st deputy minister of the USSR Timber, Pulp and Paper and Wood Processing Industry and G.P. Lavrova, 1st deputy minister of the RSFSR Forestry Industry/

[Text/ From a speech by G.L. Medvedeva, 1st deputy minister of the USSR Timber, Pulp and Paper and Wood Processing Industry

A most important trend in the work of administrative and professional trade union organs is that of mobilizing the collectives in the interest of achieving economies in the use of all types of material resources and disseminating to the maximum possible degree throughout the branch the experience accumulated by enterprises of the timber and woodworking industry in Ivanovo-Vankovsk Oblast in the use of local forestry raw material resources and also the collectives of the Kotlas and Solikamsk pulp and paper combines in the economic use of wood raw materials, fuel and energy and other material resources.

Compared to 1981, the use of waste products obtained from timber procurements throughout the branch in 1984 increased by 170,000 cubic meters, the waste products from sawmill and woodworking operations -- by 2.5 million cubic meters and bark -- by 0.5 million cubic meters.

The dissemination of the experience accumulated by labor collectives in Kotlas and Solikamsk TsBK's [pulp and paper combines/ in lowering the mass-intensiveness of individual types of paper and cardboard enabled the labor collectives to reduce the consumption of wood raw materials during the 1981-1984 period by a volume in excess of 4 million cubic meters, including by 1 million cubic meters in 1984.

Acting upon the initiative of leading enterprises and associations throughout the country, a movement was launched on an extensive scale -- to carry out processing work for 2 days during the current year, based upon the use of raw material, fuel-energy and other material resources which were saved during the course of other operations. Such obligations have been undertaken by all of our ministry's labor collectives. It has been estimated that the processing carried out on these 2 days will produce a savings, less the cost of the purchased items, of approximately 70 million rubles and that it will make it possible to release approximately 1.1 million cubic meters of wood raw



materials, 25,000 cubic meters of chipboard panels, 600,000 square meters of fiberboard panels and considerable volumes of other resources.

Attaching serious importance to the problems concerned with raising the efficiency of use of wood raw materials, the collectives of the Yugmebel', Tsentrmebel' and Kiyevdrev associations achieved an expansion in the raw material base and stable operations on the part of plants engaged in the production of chipboard panels. And they accomplished this by utilizing local secondary wood raw materials and also by making complete use of their own wood waste products. During 4 years of the five-year plan, use was made here of more than 1 million additional cubic meters of local wood waste products and this made it possible to release 25,000 railroad freight cars for other work.

However, on the whole we possess considerable reserves for making complete use of our raw materials. By no means is full use being made of the waste products of timber procurement production or sawmill and woodworking operations at many enterprises. For example, some associations have decreased the amount of attention they are giving to the production of technological chips for the pulp and paper and panel industry. During 1984 and January of 1985, the tasks for the production of this raw material were for all practical purposes not fulfilled by so much as one association. The use of the capabilities for producing chips does not exceed 75 percent.

A considerable reserve for improving the use of wood raw materials is that of making extensive use in the fuel balance of enterprises of raw materials obtained from the processing of crowns of trees shipped to lower timber yards. Estimates reveal that the use of the wood obtained from the crowns of trees makes it possible to obtain approximately 3 million additional tons of conventional fuel.

A great amount of work remains to be carried out in connection with restoring discipline in the use of fuel-energy resources. The USSR People's Control Committee, after carrying out a check on the fulfillment of tasks associated with achieving economies in the use of fuel-energy resources at enterprises of the ministry, singled out serious violations noted in this regard. During December 1984 and January 1985 alone, the 10 enterprises at which a check was carried out used 20 million kilowatt hours of electric power over and above the established limits. The Ust'-Ilimskiy LPK /Lumber Industry Complex/ Production Association fulfilled its task for economizing in the use of thermal energy by only 38 percent and electric power -- by 42 percent.

A requirement exists here for immediately undertaking energetic measures. Daily intense work is required and the creative potential of the workers, engineers and leaders at all levels of production administration must be mobilized.

From a speech by G.P. Lavrova, 1st deputy minister of the RSFSR Forestry Industry

For forestry workers in the Russian Federation, the year 1984 was a year filled with intense work aimed at carrying out the decisions of the 26th party congress



and subsequent plenums of the Central Committee. It was a year marked by a persistent campaign directed towards fulfilling the high socialist obligations undertaken by labor collectives, raising the intensification of forestry and industrial production, improving the structure of the forests from the standpoint of quality and achieving efficient use and proper safeguarding of the forest resources.

The tasks of the state plan for the economic and social development of the branch were fulfilled in terms of the principal indicators for forestry and industrial production, gross output of food products of the forest and agricultural production.

The carrying out of the socialist obligations concerned with above-plan growth in labor productivity and a reduction in the production costs for marketable products was achieved.

With each passing year, the work volumes in forestry are increasing, the technological processes are becoming more complicated and more productive machines and mechanisms are being received. This is bringing about an increase in the requirements for electrical and thermal power and also in the consumption of liquid fuel and lubricating materials. Under these conditions, great importance is attached to the efficient and thrifty use of materials, raw materials and energy resources.

An efficient program of practical actions has been developed in this regard at each forestry enterprise for 1985 and constant control has been established over the manner in which it is carried out.

This year the plans call for savings to be realized on the order of 10 million kilowatts of electric power and also in petroleum products, metal, wood and wood waste products, with such savings being used to produce approximately 400,000 cubic meters of technological chips. The plans also call for many boilers to be converted over from the use of liquid and solid fuel to wood waste products.

Many years of experience have shown that labor productivity is dependent to a large degree upon the introduction into production operations of progressive forms for organizing and stimulating labor. This requirement is met most fully by the organization of labor based upon brigade contracts and with use being made of cost accounting procedures.

We presently have 6,000 brigades operating on the basis of cost accounting procedures and 1,700 -- in accordance with collective contracts. The introduction of brigade forms of labor organization into operations at enterprises of the Kalinin, Krasnodar and Ulyanovsk and many other forestry administrations has underscored their high effectiveness.

Unfortunately, work is not proceeding satisfactorily at many enterprises of the Kirov, Kostroma, Novgorod and some other forestry administrations.

The ministry has assigned subordinate enterprises and organizations with the task this year of ensuring that not less than 70 percent of the workers in

forestry and industrial production operate on the basis of brigade forms for the organization and stimulation of labor. Thirty five percent of the brigades must be converted over to the use of cost accounting procedures. The plans call for wages and bonuses for 3,750 brigades to be issued on the basis of the coefficient of labor participation.

In connection with raising labor productivity, tremendous importance is attached to introducing scientific and engineering achievements into production. However, in matters concerned with production mechanization, especially timber procurement operations, we encounter definite difficulties. Indeed, the majority of our enterprises operate in regions characterized by limited forestry raw material resources; a large number of tree felling areas having small supplies of wood are worked annually and this leads to the need for shifting operations frequently.

By 1990, we plan to increase the work volumes, without the use of manual labor, in timber procurement production for the felling of timber to 19 percent compared to 4 percent in 1984, for skidding -- to 20 compared to 5.6, for the cross-cutting and sorting of wood -- to 24 percent compared to 12 percent last year.

We are aware that these figures are dependent mainly upon persistent work being carried out in the future aimed at mastering new equipment and achieving the planned labor productivity, with initiative being displayed by the workers and specialists.

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